

Volume V of V, Appx11371 to Appx13876
No. 23-1922

In the
United States Court of Appeals
for the Federal Circuit

BEARBOX LLC, AUSTIN STORMS,

Plaintiffs-Appellants,

v.

LANCIUM LLC, MICHAEL T. McNAMARA, RAYMOND E. CLINE, JR.,

Defendants-Appellees.

Appeal from the United States District Court
for the District of Delaware, No. 1:21-cv-00534-GBW-CJB
The Honorable Gregory B. Williams

CORRECTED JOINT APPENDIX

ADAM M. KAUFMANN
BARNES & THORNBURG LLP
One North Wacker Drive, Suite 4400
Chicago, Illinois 60606
(312) 357-1313

MARK C. NELSON
BARNES & THORNBURG LLP
2121 North Pearl Street, Suite 700
Dallas, Texas 75201
(214) 258-4200

CHAD S.C. STOVER
BARNES & THORNBURG LLP
222 Delaware Avenue, Suite 1200
Wilmington, Delaware 19801
(302) 300-3434

*Counsel for Appellees, Lancium LLC, Michael T.
McNamara and Raymond E. Cline, Jr.*

BENJAMIN T. HORTON
JOHN R. LABBE
RAYMOND R. RICORDATI, III
CHELSEA MURRAY
MARSHALL, GERSTEIN & BORUN LLP
233 South Wacker Drive
6300 Willis Tower
Chicago, IL 60606-6357
(312) 474-6300

*Counsel for Plaintiffs-Appellants
BearBox LLC and Austin Storms*



INDEX OF JOINT APPENDIX

Document Description	Date	Docket/ Exhibit No.	Appx Pages
March 6, 2023 Opinion regarding bench trial	2023-03-06	D.I. 262	Appx1-59
Final Judgment entered 04/05/2023	2023-04-05	D.I. 267	Appx60-62
November 14, 2022 Memorandum Opinion (re: summary judgment)	2022-11-14	D.I. 230	Appx63-89
November 14, 2022 Order (re: summary judgment)	2022-11-14	D.I. 231	Appx90-91
November 23, 2022 Memorandum Order (granting motion to strike)	2022-11-23	D.I. 247	Appx92-97
U.S. Patent No. 10,608,433	2020-03-31	TX001	Appx100-149
Civil Docket Sheet for Case No. 1:21-cv-00534-GBW-CJB			Appx150-191
COMPLAINT filed with Jury Demand against Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2021-04-14	D.I. 1	Appx192-266
AMENDED COMPLAINT against Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara- filed by Austin Storms, BearBox LLC.	2021-05-24	D.I. 19	Appx623-713
AMENDED ANSWER to 19 Amended Complaint,, COUNTERCLAIM against BearBox LLC, Austin Storms by Michael T. McNamara, Raymond E. Cline, Jr, Lancium LLC.	2021-06-25	D.I. 28	Appx1101-1102
SCHEDULING ORDER	2021-07-06	D.I. 35	Appx1431-1440
ANSWERING BRIEF in Opposition re 32 MOTION for Judgment on the Pleadings filed by BearBox LLC, Austin Storms.	2021-07-19	D.I. 42	Appx1476

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Letter to The Honorable Maryellen Noreika from Andrew C. Mayo regarding joint status report in connection with request for claim construction hearing.	2021-08-31	D.I. 54	Appx1501
Letter to Judge Christopher J. Burke from Chad S.C. Stover regarding Claim Construction.	2021-10-15	D.I. 63	Appx1537
REPORT AND RECOMMENDATIONS re 32 MOTION for Judgment on the Pleadings	2022-01-18	D.I. 92	Appx1615-1623
ORDER ADOPTING 92 REPORT AND RECOMMENDATION GRANTING 32 Motion for Judgment on the Pleadings	2022-02-02	D.I. 97	Appx1630
Second AMENDED COMPLAINT against Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-02-16	D.I. 103	Appx1631-1734
Letter to The Honorable Christopher J. Burke from Andrew C. Mayo regarding response to motion to strike	2022-03-10	D.I. 113	Appx1848
OPENING BRIEF in Support re 120 MOTION to Dismiss	2022-03-16	D.I. 121	Appx2024-2041
REPORT AND RECOMMENDATION	2022-05-26	D.I. 143	Appx2339
OBJECTION to 143 Report and Recommendations by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara.	2022-06-09	D.I. 146	Appx2506-2567
OPENING BRIEF in Support re 148 MOTION for Summary Judgment	2022-06-15	D.I. 149	Appx2611-2656

Document Description	Date	Docket/ Exhibit No.	Appx Pages
CONCISE STATEMENT of Undisputed Material Facts re 148 MOTION for Summary Judgment by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-06-15	D.I. 150	Appx2660
DECLARATION OF Adam M. Kaufmann re 150 Statement, 148 MOTION for Summary Judgment	2022-06-15	D.I. 151	Appx2681 Appx2722 Appx2733-2734 Appx2739 Appx2741-2742 Appx2748-2751 Appx2754-2755 Appx2761-2762 Appx2774 Appx2777 Appx2810 Appx2827 Appx2840-2841 Appx2856 Appx2858-2859 Appx2899-2900 Appx2939 Appx2945-2946 Appx2950 Appx2963-3030
REDACTED VERSION of 149 Opening Brief in Support	2022-06-29	D.I. 163	Appx3450
ANSWERING BRIEF in Opposition re 148 MOTION for Summary Judgment filed by BearBox LLC, Austin Storms	2022-07-19	D.I. 176	Appx4260 Appx4265 Appx4271-4273 Appx4282
STATEMENT re 150 Statement // Plaintiffs' Response to Defendants' Concise Statement of Facts in Support of Defendants' Motion for Summary Judgment by BearBox LLC, Austin Storms	2022-07-19	D.I. 177	Appx4290

Document Description	Date	Docket/ Exhibit No.	Appx Pages
DECLARATION of Chelsea Murray re 176 Answering Brief in Opposition by BearBox LLC, Austin Storms	2022-07-19	D.I. 179	Appx4691 Appx4693-4696 Appx4843-4856
REPLY BRIEF re 148 MOTION for Summary Judgment filed by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-07-29	D.I. 195	Appx5618-5624
DECLARATION of Adam M. Kaufmann re 195 Reply Brief by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-07-29	D.I. 196	Appx5678 Appx5751-5753 Appx5846 Appx5850
REDACTED VERSION of 195 Reply Brief	2022-08-05	D.I. 206	Appx5916
Letter to The Honorable Gregory B. Williams from Chad S.C. Stover regarding Defendants' request for oral argument re: their summary judgment and Dabuert motions	2022-09-28	D.I. 209	Appx5952-5953
Letter to The Honorable Gregory B. Williams from Andrew C. Mayo regarding response to Defendant's September 28, 2022 letter	2022-09-29	D.I. 210	Appx5954
MEMORANDUM OPINION	2022-10-07	D.I. 212	Appx5957-5964
ORDER re 212 MEMORANDUM OPINION	2022-10-07	D.I. 213	Appx5965
MEMORANDUM OPINION re claim construction	2022-10-28	D.I. 218	Appx6005-6020
ORDER re 218 Memorandum Opinion regarding claim construction	2022-10-28	D.I. 219	Appx6021
MOTION to Bifurcate	2022-10-31	D.I. 222	Appx6024-6026
OPENING BRIEF in Support re 222 MOTION to Bifurcate	2022-10-31	D.I. 223	Appx6027-6043
ANSWERING BRIEF in Opposition re 222 MOTION to Bifurcate	2022-11-10	D.I. 229	Appx6062-6073

Document Description	Date	Docket/ Exhibit No.	Appx Pages
ORAL ORDER	2022-11-14	D.I. 232	Appx6074-6075
Letter to The Honorable Gregory B. Williams from Chad S.C. Stover regarding Defendants' Opening Letter Brief in Support of its Emergency Motion to Strike Plaintiffs' Newly Disclosed, Untimely Expert Report and Request for Expedited Briefing - re 236 MOTION to Strike	2022-11-15	D.I. 237	Appx6089-6191
Proposed Pretrial Order by BearBox LLC, Austin Storms	2022-11-15	D.I. 239	Appx6216 Appx6639-6653s
Letter to The Honorable Gregory B. Williams from Andrew C. Mayo regarding response to defendants' motion to strike	2022-11-18	D.I. 241	Appx6744-6940
REDACTED VERSION of 237 Letter,, by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-11-22	D.I. 246	Appx6974-6975
POST TRIAL BRIEF by BearBox LLC, Austin Storms	2023-01-11	D.I. 256	Appx7104-7105 Appx7107-7120
Proposed Findings of Fact by BearBox LLC, Austin Storms	2023-01-11	D.I. 257	Appx7132 Appx7150
POST TRIAL BRIEF (<i>Response</i>) by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2023-01-25	D.I. 258	Appx7163-7165
Proposed Findings of Fact by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2023-01-25	D.I. 259	Appx7189-7196
POST TRIAL BRIEF (Reply) by BearBox LLC, Austin Storms	2023-02-01	D.I. 260	Appx7219
ANSWERING BRIEF in Opposition re 269 MOTION for Attorney Fees and Expenses	2023-05-03	D.I. 273	Appx7484
NOTICE OF APPEAL to the Federal Circuit of 267 Judgment	2023-05-04	D.I. 274	Appx7973-7974

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Trial Transcript (Volumes I - III)	12/6/2022 through 12/8/2022		Appx8005 Appx8007 Appx8010 Appx8017-8026 Appx8029-8030 Appx8033-8035 Appx8037-8046 Appx8048-8059 Appx8060 Appx8063 Appx8069 Appx8070 Appx8073 Appx8075 Appx8077 Appx8080-8081 Appx8084-8088 Appx8090-8091 Appx8098-8101 Appx8104-8108 Appx8111-8112 Appx8115-8136 Appx8141-8153 Appx8155-8156 Appx8160-8162 Appx8165-8166 Appx8168-8169 Appx8171 Appx8173-8174 Appx8178-8183
Defendants' 2nd Supplemental Response to Plaintiffs' Interrogatories (Nos. 3)	2021-12-23	TX005	Appx8842-8878
WO2019139632A1	2019-07-18	TX013	Appx8879-8922
Text Message Conversation between A. Storms and B. Hakes		TX014	Appx8923-8994

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Layer1 Claim Chart regarding U.S. Patent No. 10,608,433, Ex. H to Complaint (D.I. 1-8)(20-cv-00739) (exhibit as used at depositions)	2020-08-14	TX017	Appx9003-9028
Email from Austin Storms to Jason re Fwd: code with attachments PTX130 through PTX141	2019-04-29	TX020	Appx9061
denis_logic.py	2021-02-16	TX022	Appx9109
arb_main_AEC.py	2019-05-01	TX024	Appx9110
Message Report – Text messages between A. Storms and M. McNamara during May 4, 2019 through May 9, 2019	2019-05-04	TX052	Appx9137
Presentation, Lancium – Powering the Future of Computing	2019-08-19	TX091	Appx9234
Email from M. McNamara to R. Cline Fwd: Lancium Smart Response/September Thomas Road Power Reconciliation	2019-10-25	TX096	Appx9274
Email from M. McNamara to R. Cline re Thomas Road Power and attachments	2019-08-16	TX107	Appx9310-9312
Email from M. McNamara to R. Cline Re: ADK_LDI – Lancium LR Awards	2019-09-01	TX111	Appx9318
Initial Purchase Agreement between Lancium and Calpine for Thomas Road Facility		TX122	Appx9361-9362
PowerPoint - BTIG, Lancium Investor Presentation	2021-05-00	TX125	Appx9366-9411
5005.JPG (image with metadata)	2018-11-29	TX128	Appx9412-9413
5005.JPG (image with metadata)	2018-12-02	TX129	Appx9414-9415
5005.JPG (image with metadata)	2019-01-07	TX130	Appx9416-9417
IMG_0496.JPG (image with metadata)	2019-01-24	TX131	Appx9418-9419

Document Description	Date	Docket/ Exhibit No.	Appx Pages
IMG_0497.HEIC (image with metadata)	2019-01-24	TX132	Appx9420-9421
IMG_7517.jpeg (image with metadata)	2019-03-02	TX134	Appx9422-9423
57429304353__6E0371C9-75E8-44E8-A81D-AFBB30CF06BC.JPG (image with metadata)	2019-03-14	TX138	Appx9424-9425
57776007234__2BB185B5-C6C7-46CD-B355-A20A49854F4D.JPG (image with metadata)	2019-04-23	TX143	Appx9434-9435
Email from Austin Storms to Denis Labij re Day-ahead vs. RTBM LMP biz requirements and data questions with attachment (lmp_model_04252019.csv)	2019-04-24	TX146	Appx9444-9453
Email from Austin Storms to Denis Labij re Day-ahead vs. RTBM LMP biz requirements and data questions	2019-04-26	TX149	Appx9454-9455
Email from Austin Storms to Michael McNamara re BearBox 20' product details and supporting documentation with attachments (BearBox Product Details Summary v1.pdf; Permatron_Spec_Sheet.pdf; CamFil_Spec_Sheet.pdf; JandD_Spec_Sheet.pdf; exelon4_modeling_05092019.xlsx)	2019-05-09	TX157	Appx9631-9635
International Application Published Under PCT - WO 2019/139632 A1 Method and System for dynamic Power Delivery to a Flexible Datacenter Using Un-utilized Energy Sources	2019-07-05	TX163	Appx9711-9754
Patent Application File 162927119.pdf	2021-09-07	TX167	Appx11232-11363

Document Description	Date	Docket/ Exhibit No.	Appx Pages
BearBox_Product_Details_Summary_v1.pdf	2019-05-09	TX171	Appx11371-11372
Permatron_Spec_Sheet.pdf	2015-03-02	TX172	Appx11373
CamFil_Spec_Sheet.pdf	2018-12-08	TX173	Appx11374
JandD_Spec_Sheet.pdf	2019-04-01	TX174	Appx11375-11376
exelon4_modeling_05092019.xlsx	2019-05-09	TX175	Appx11377-11393
Email Lancium / SBI Update - Sept 27th	2018-09-27	TX176	Appx11394-11395
EDFR-Lancium_Hereford_Terms_Summary DRAFT 20180926.docx	2018-09-27	TX177	Appx11396-11400
Acciona 2018SEP19 Site Visit.pdf	2018-09-20	TX178	Appx11401-11407
ServiceNow_Location_Entry.png		TX179	Appx11408-11409
Tier44_Power_Management_Dashboard.png		TX180	Appx11410
Email Demo Day Script	2018-08-26	TX189	Appx11411-11412
Email Got it!	2018-06-28	TX190	Appx11413
Email Re: Other Thomas Investment	2018-10-12	TX222	Appx11567
dashboard_content.pptx	2018-10-11	TX223	Appx11568
Lancium Deck - I Squared v5_1IZ8uVYKObIZVDbZltnXEz-MJYT6wmTrr.pptx	2018-01-31	TX266	Appx11601 Appx11606
Email Re: Lancium (ADK_LD1) LR	2019-08-28	TX310	Appx11632-11638
Lancium_Control_Narrative_-Draft 2019-05-01.pdf	2019-05-02	TX320	Appx11639 Appx11656-11658
Miner_Field_Ops_Kick_Off.pptx	2021-09-29	TX345	Appx11734
Email Re: 1803343 Lancium Data Box - Design Basis	2018-05-11	TX371	Appx11759
Email Re: Introductions	2017-12-05	TX372	Appx11766
Email Deck	2017-12-27	TX373	Appx11767
Lancium_Investor_Deck_Q118_v1.pptx	2017-12-27	TX374	Appx11768-11796
Email LR DEMAND RESPONSE PRESENTATION 2019.pptx	2019-05-18	TX437	Appx11797
LR_DEMAND_RESPONSE_PRESENTATION_2019.pptx	2019-05-17	TX438	Appx11807-11809

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Email BAML deck	2018-03-29	TX462	Appx11817
Lancium - BAML April 10th.pptx	2018-03-29	TX463	Appx11828
Email Countersigned EMS attached	2019-07-15	TX496	Appx12329
Countersigned_EMS_Lancium_071519.pdf	2019-07-15	TX497	Appx12337
Email Re: FW: Real-Time LMP	2019-04-22	TX501	Appx12342-12343
Email MP2 Demand Response	2019-08-27	TX526	Appx12344
Email Thomas Road Power	2019-08-16	TX567	Appx12348
Email Re: Checking / New Mexico Wind Energy Center	2018-02-07	TX594	Appx12350
Email Re: ADK_LD1 - Lancium LR Awards.xlsx	2019-09-04	TX595	Appx12352-12356
Email Re: ERS	2019-05-14	TX626	Appx12358
Email Re: LR DEMAND RESPONSE PRESENTATION 2019.pptx	2019-05-18	TX740	Appx12395-12396
Lancium_Introduction_and_Overview - May 2019.pdf	2019-05-08	TX741	Appx12397-12426
751f8045-9c06-4c58-b83f-f1d98c859e00.json		TX742	Appx12427-12428
Email Re: Meeting tomorrow	2019-05-06	TX748	Appx12431-12432
Lancium_Introduction_and_Overview - April 2019.pdf	2019-04-10	TX749	Appx12433-12462
Lancium_Standard_Mutual_NDA_.doc	2019-05-06	TX750	Appx12463-12465
Email Fwd:ERCOT Energy Curves Have Been Updated	2019-08-14	TX756	Appx12466-12468
Lancium_August_2019_Renewal_-24_months.docx	2019-08-14	TX757	Appx12469-12471
Email Re: Calpine forecast for CP days	2019-08-05	TX758	Appx12472-12473
Weighted Average Cost of Energy (WACOE) - if you fix power at \$33 and sell back at any price over \$100.	2019-08-06	TX763	Appx12474
Lancium_Sellback_Sensitivity_Analysis.xlsx	2019-08-06	TX764	Appx12475-12478

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Emails between Michael McNamara to Eric Kutscha, Jon Cohen, Raymond Cline attaching BearBox product details summary and specification sheets	2019-05-09	TX770	Appx12946
Email Jon Cohen to Michael McNamara	2018-10-16	TX781	Appx13030
Email from Austin Storms to Michael McNamara attaching BearBox product details summary and spec sheets	2019-05-09	TX887	Appx13323-13339
Storms Tweets - BearBox	11/1/2018 - 5/16/2019	TX901	Appx13353
Email from Austin Storms to Rajiv Patel and Michael Sacksteder attaching BearBox product details summary	2019-08-20	TX906	Appx13371-13396
Email from Austin Storms to Todd Garland Re: Fwd: EXELON DATA MODELING DUMP 2	2019-05-06	TX919	Appx13408-13409
Email from Austin Storms to Todd Garland with attachments Fwd: EXELON DATA MODELING DUMP 2	2019-05-03	TX920	Appx13411-13447
Email from Austin Storms to Ben Hakes attaching NDA Confidentiality Agreement	2018-12-10	TX932	Appx13450
Text message string	2020-08-03	TX957	Appx13565
Email chain between Dennis Labi, Austin Storms, Mike Hoadley, Chris Vickery, and Benjamin Hakes RE Day-ahead vs. RTBM LMP biz requirements and data questions	2019-04-25	TX962	Appx13566-13567
Lancium_Data_Box_- Design Basis 20180511 R3	2018-05-11	TX979	Appx13568-13569
Email re: ADK_LD1 - Lancium.xlsx	2019-08-26	TX981	Appx13570

Document Description	Date	Docket/ Exhibit No.	Appx Pages
ADK LD1 - Lancium.xlsx	2019-08-26	TX982	Appx13571
Curriculum Vitae of Frank McCamant			Appx13572-13576
Metadata for exelon4_modeling_05092019(1).xlsx		TX984	Appx13577-13586
Transcript of Telephonic Motion Hearing regarding Joint MOTION for Teleconference to Resolve Discovery Dispute; and Motion to Strike Amended Complaint	2022-04-22		Appx13647 Appx13653
Transcript of Markman Hearing	2022-10-20		Appx13804 Appx13821 Appx13828 Appx13835
Transcript of Pretrial Conference	2022-11-29		Appx13858-13876



Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar)

- **Physical Dimensions**

- Exterior: 20'L x 8' W x 8'6"H
- Interior: 19'4"L x 7'8"W x 7'9"H
- Door Opening: 7'8"W x 7'5"H
- Weight: 4,900 lbs. + installed equipment

- **Electrical System**

- 3-Phase, 4-Wire 415Y/240v
- Remote dual-outlet control PDUs (64.8kW total)
- All network infrastructure on UPS/battery backup
- ~373kW max load

- **Physical Rack System**

- Custom laser cut aluminum frame with stainless wire deck shelving
- Adjustable in 1" increments

- **Cooling System**

- Convection air cooled
- (8) 10,100 CFM direct-drive, single-phase exhaust fans (see attached)
- Temperature controlled/software automation, remote on/off

- **Air Filtration System**

- Option 1: Permatron Model U2 (see attached)
- Option 2: Camfil V-Bank Glide/Pack (see attached)
- Intake-side adjustable pitch weather shield

- **Total Designed Hashrate**

- 272 miners @ 14.5 TH/s each
- 3.9 PH/s total

- **Network**

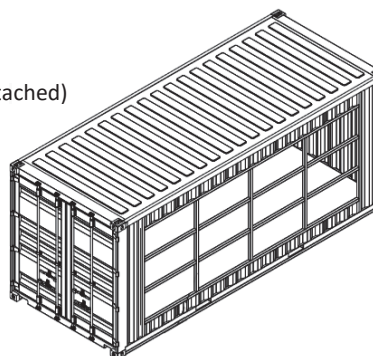
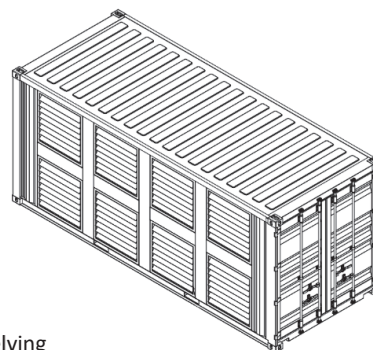
- Cat5e ethernet
- 48-port unmanaged switches (CISCO, TP-Link, or other)
- On-site WAN or satellite (varies by location)

- **Software Management**

- Local cgminer watchdog
- PostgreSQL database miner logging
- PDU/relay mapping (full automation)
- Optional real-time breakeven monitoring (renewable marketplace data)
- SMTP email alerts (restart, reboot, and maintenance required)

- **Summary**

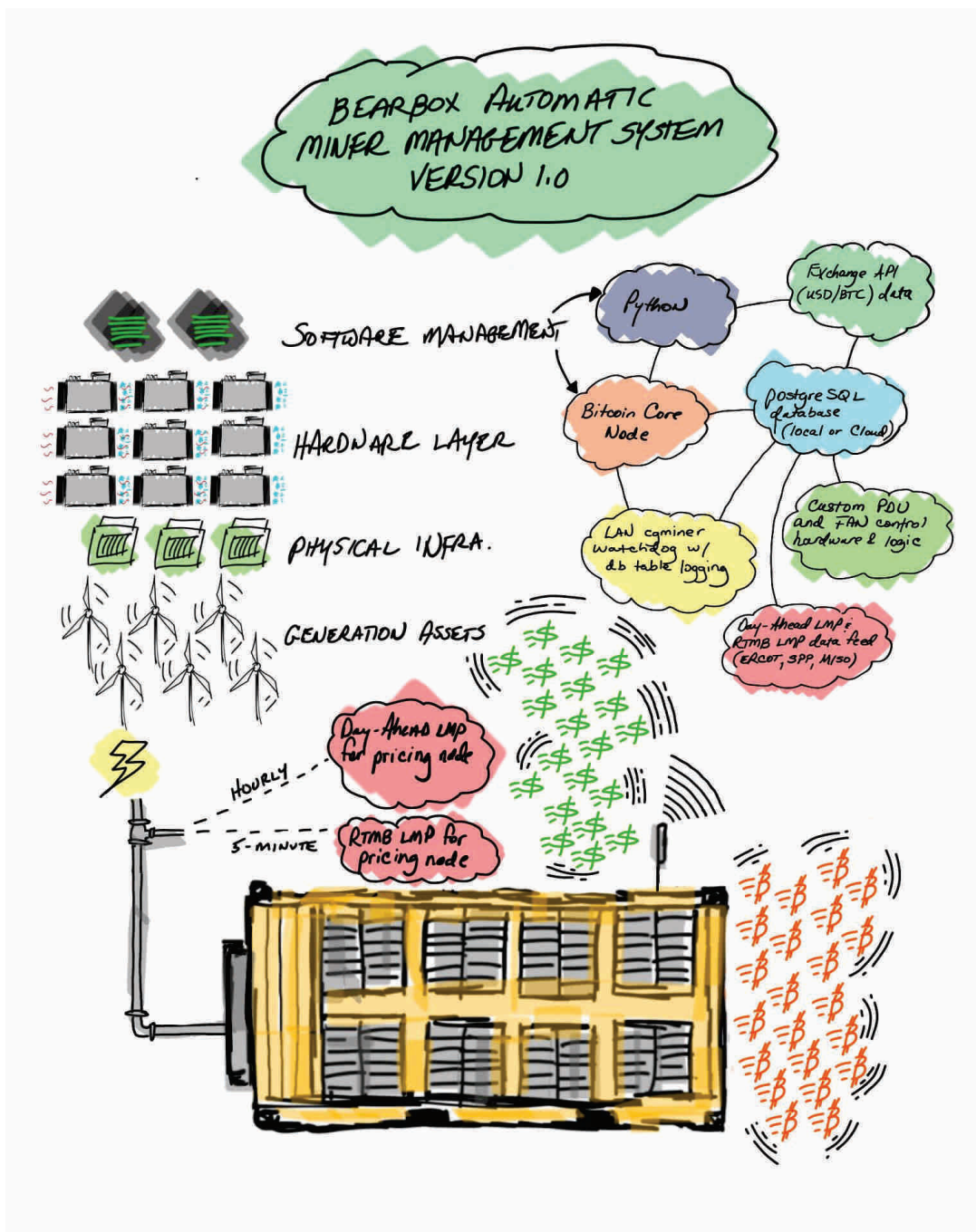
- BearBox V20S (3.9 PH/s @ ~373kW max load)
- Does **NOT** include miners or exterior electrical infrastructure (transformer)
- Price - \$86,791.51 (\$94,766.33 after 9.2% sales tax)



Bearbox v Lancium
Trial Exhibit
TX171

**BearBox**

Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar) – cont.





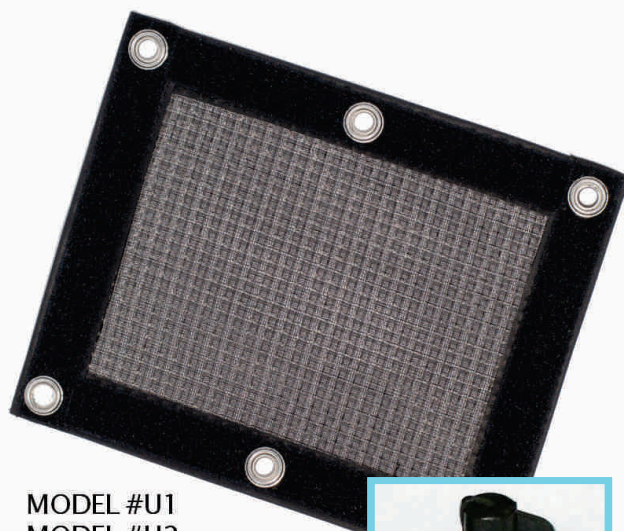
PreVent® Model U/BHA Flexible Frame Air Intake Filter

Acts as a primary pre-filtration defense to help prevent the damage and extensive maintenance that large volumes of dirt and debris can cause. Model U and BHA are custom designed and manufactured to fit any sized air intake.

Model U filter is constructed of washable three-dimensional electrostatic polypropylene media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model U1 contains one layer of media or Model U2 contains two layers of media depending on the application's environmental particle size.

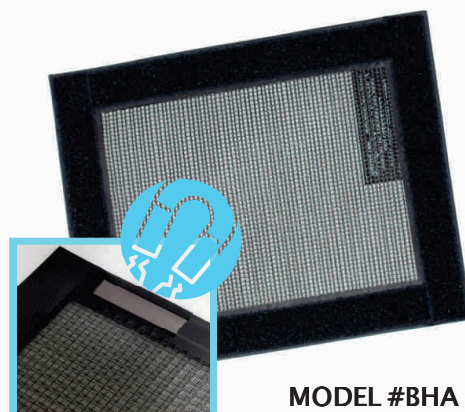
Model BHA filter is constructed of black PVC coated polyester high abrasion media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model BHA contains one layer of media.

- Can be affixed to unit with hook/loop stripping, grommets with mount clips, elastic bungee hooks or magnetic stripping
- Fits any equipment, specify size
- Sewn 2.5" vinyl edge (folded to 1-1/4") is standard for flexible filters 0-2000 square inches
- Sonic welded edges also available as frame option
- UV protected black media
- U/L Classified as to Flammability Only
- 5 Year Warranty



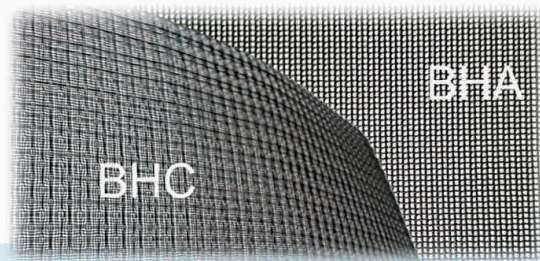
MODEL #U1
MODEL #U2

Plastic mount clips available for easy installation.



MODEL #BHA

Magnetic stripping inside vinyl edge available for easy installation.



	U1	U2	BHA
Avg. Arrestance Efficiency	42%	72%	N/A
Dust Holding Capacity	67 gm.	100 gm	N/A
Initial Air Flow Resistance	0.02" w.g.	0.05" w.g.	0.02" w.g.

www.permatron.com
1-800-882-8012

Bearbox v Lancium
Trial Exhibit
TX172

LIT-PREVENTMODELU/BHA

©2015 Permatron Corporation

Filter Frames & Housings**Housings (ASHRAE)****V-Bank Glide/Pack®****Advantages**

- **V-bank design reduces filter velocity and filter pressure drop by up to 60%, saving energy**
- **Increases life of filters up to four times**

Typical applications: Single-stage V-bank filter housing for commercial, industrial, manufacturing or medical facilities.

Construction: 16-gauge galvanized steel with pre-drilled standing flanges, dual access doors, UV-resistant door knobs, door and filter sealing gasketing.

Filters: Any 2" deep filter.

Performance: Less than 1/2 of 1% leakage guaranteed. Rated airflow 500 fpm, may be operated to 625 fpm. Standard model operational to ± 6.0 " w.g.

Additional data: Sizes available from 4 filters high to 6 filters wide. Housing is weatherproof for outside installation without modification. Includes pneumatic fitting for static pressure gauge.

See Literature 2421 for more details.

Dimensions and Airflow Capacity (cfm)

Number of filters wide	Height (inches)	1/2 Filter wide	1 Filter wide	1-1/2 Filters wide	2 Filters wide	2-1/2 Filters wide	3 Filters wide	3-1/2 Filters wide	4 Filters wide	4-1/2 Filters wide	5 Filters wide	5-1/2 Filters wide	6 Filters wide	Housing depth (inches)
1/2	15.25	-	2,000	-	4,000	-	6,000	-	8,000	-	10,000	-	12,000	28.00
1	27.25	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	
1-1/2	39.50	-	6,000	-	12,000	-	18,000	-	24,000	-	30,000	-	36,000	
2	51.50	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	
2-1/2	63.75	-	10,000	-	20,000	-	30,000	-	40,000	-	50,000	-	60,000	
3	75.75	6,000	12,000	18,000	24,000	30,000	36,000	42,000	48,000	54,000	60,000	66,000	72,000	
3-1/2	88.00	-	14,000	-	28,000	-	42,000	-	54,000	-	70,000	-	84,000	
4	100.00	8,000	16,000	24,000	32,000	40,000	48,000	56,000	60,000	72,000	80,000	88,000	96,000	
Width (inches)		12	24	36	48	60	72	84	96	108	120	132	144	

As part of our program for continuous improvement, Camfil reserves the right to change specifications without notice. 2018.12.07

Bearbox v Lancium
Trial Exhibit
TX173

Conover NC, Corcoran CA, Crystal Lake IL, Riverdale NJ,
Washington NC, Concord Ontario
United States Tel: (866) 422-6345, Canada Tel: (800) 976-9382
www.camfil.com



Total System Solutions

Wall Master Exhaust Fan

J&D Manufacturing's Wall Master exhaust fan offers high volume output and smooth, efficient operation. The heavy duty 18 gauge galvanized housing is strong, compact, and easy to install. J&D's Wall Master is a dependable fan suited for nearly any application including agricultural buildings, greenhouses, and warehouses.

When installing any J&D Manufacturing exhaust fan, you must provide a proper inlet. Call us today to help you choose the appropriate inlet and design an efficient ventilation system.



Features

- Available in 36" and 50" models
- Heavy duty 18 gauge galvanized housing
- Rugged X-frame for added stability on belt drive models
- Aluminum shutters with tie bar to prevent flapping and locking open
- 1" x 2" removable wire mesh guards are hot dip galvanized after welding
- Poly guard clips to reduce vibration for quiet performance
- 3, 4 or 6 blade galvanized propeller is balanced for smooth operation
- **Lifetime Warranty** on 3 blade cast aluminum props, available on select 50" models
- Bearings are eccentric locking, pre-lubricated, permanently sealed and rubber mounted for smooth operation and reduced blade fatigue, and are covered by a **Three Year Warranty**
- Spring belt tensioning system reduces bounce at startup on all belt driven models
- Optional weather hood available for protection from severe wind and weather
- Totally enclosed, maintenance-free, high-efficiency motors have completely sealed ball bearings, and are covered by a **Two Year Warranty**

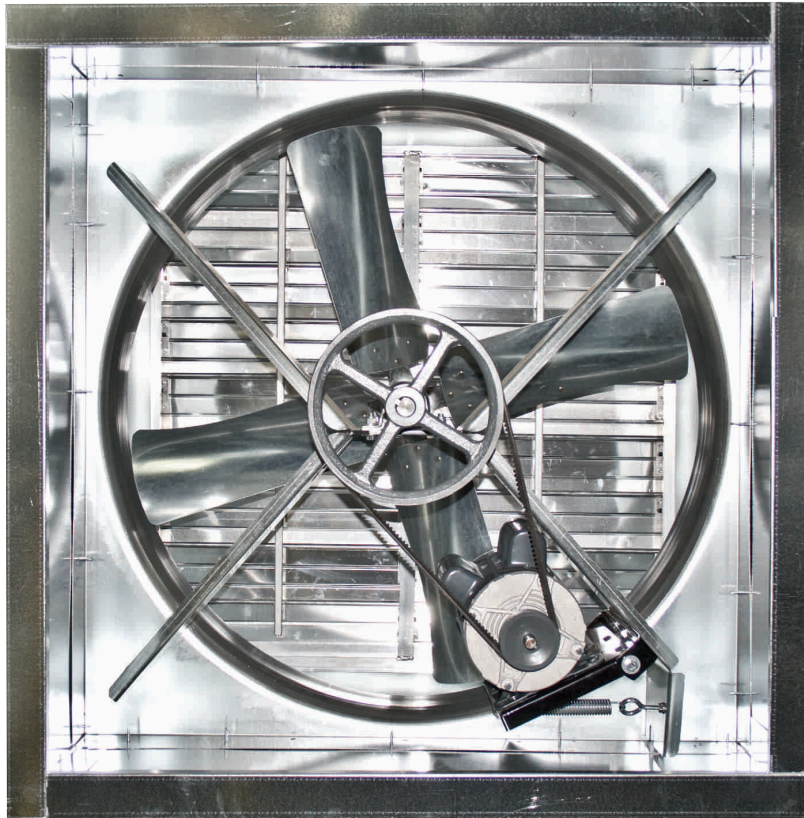


Bearbox v Lancium
Trial Exhibit
TX174

⚠ WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

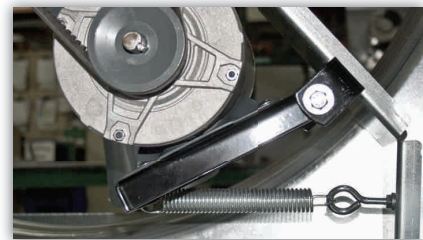
Wall Master Exhaust Fan



Heavy-duty X-frame - (Shown without rear guard for illustration purposes only)



Removable 12 Gauge 1" x 2" wire mesh guards are hot dip galvanized after welding. The guard is attached to the housing with poly guard clips to reduce noise and vibration.



Belt drive models include a heavy duty spring belt tensioner to reduce bounce at startup and provide uniform loading to increase the life of the belt and maintain high efficiency.

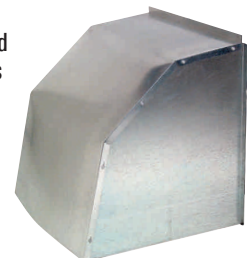
Part#	Size	Phs	Spd	@0.05" SP		Drive	Prop
				CFM	Watt		
Single Phase							
VF36DM	36"	1	1	10,100	19.5	Direct	3-Glv
VF36GG	36"	1	1	9,000	18.1	Belt	4-Glv
VF36GG1	36"	1	1	11,500	15.2	Belt	4-Glv
VF36GG2	36"	1	2	11,400	15.3	Belt	4-Glv
VF50GG	50"	1	1	21,000	18.9	Belt	3-Glv
VF50GG6	50"	1	1	21,300	20.0	Belt	6-Glv
VF50GGCA	50"	1	1	20,900	18.8	Belt	3-CA
Three Phase							
VF36DM3CF	36"	3	1	10,000	19.6	Direct	3-Glv
VF36GG3	36"	3	1	11,400	15.1	Belt	4-Glv
VF503GG	50"	3	1	21,000	18.9	Belt	3-Glv
VF503GG6	50"	3	1	21,200	20.2	Belt	6-Glv
VF503GGCA	50"	3	1	20,900	18.8	Belt	3-CA
OSHA requires these fans to be mounted 7' above the floor							

OSHA requires these fans to be mounted 7' above the floor

Fan Size	Rough Opening
36"	41"W x 41"H
50"	54¾"W x 54¾"H

Optional Weather Hood

If Wall Master is mounted with the shutter side of the fan flush to an exterior wall a weather hood may be used on the exterior shutter side of the Wall Master to further protect the fan and shutter from severe winds and harsh weather.



Wall Master Fan Size	Weather Hood Part#
36"	VFT140860
50"	VFT140861

⚠ WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
2	5698.24	574867	0.0883609	5/6/19 11:37	0.0292715	0.9056602	4.81358E+13	2.6928794	6.70217E+12	0.0283682	0.8777121	2.6928794
3	5704.01	574867	0.0884504	5/6/19 11:42	0.0292715	0.9056602	4.81358E+13	2.6956062	6.70217E+12	0.0256247	0.7928282	2.6956062
4	5721.16	574868	0.0878003	5/6/19 11:47	0.0292715	0.9056602	4.86381E+13	2.6757929	6.70217E+12	0.0266466	0.8244458	2.6757929
5	5712.77	574868	0.0876715	5/6/19 11:52	0.0292715	0.9056602	4.86381E+13	2.6718689	6.70217E+12	0.0294184	0.9102053	2.6718689
6	5702.98	574868	0.0875213	5/6/19 11:57	0.0292715	0.9056602	4.86381E+13	2.6672901	6.70217E+12	0.2156316	6.6716417	6.6716417
7	5711.53	574868	0.0876525	5/6/19 12:02	0.0319112	0.9873325	4.86381E+13	2.671289	6.70217E+12	0.4257598	13.1730082	13.1730082
8	5719.99	574868	0.0877823	5/6/19 12:08	0.0319112	0.9873325	4.86381E+13	2.6752457	6.70217E+12	0.2947237	9.1187513	9.1187513
9	5711.93	574869	0.0870193	5/6/19 12:13	0.0319112	0.9873325	4.89954E+13	2.6510913	6.70217E+12	0.1560219	4.8273176	4.8273176
10	5708.01	574871	0.0868646	5/6/19 12:18	0.0319112	0.9873325	4.9049E+13	2.6472769	6.70217E+12	0.0253548	0.7844775	2.6472769
11	5701.9	574871	0.0867716	5/6/19 12:23	0.0319112	0.9873325	4.9049E+13	2.6444432	6.70217E+12	0.027036	0.8364938	2.6444432
12	5698.51	574871	0.08672	5/6/19 12:28	0.0319112	0.9873325	4.9049E+13	2.642871	6.70217E+12	0.026636	0.8241178	2.642871
13	5705.99	574875	0.0875317	5/6/19 13:07	0.0316965	0.9806897	4.86579E+13	2.6676082	6.70217E+12	0.0297482	0.9204093	2.6676082
14	5706.72	574875	0.0875429	5/6/19 13:11	0.0316965	0.9806897	4.86579E+13	2.6679495	6.70217E+12	0.0283545	0.8772882	2.6679495
15	5702.01	574875	0.0874707	5/6/19 13:16	0.0316965	0.9806897	4.86579E+13	2.6657475	6.70217E+12	0.0263671	0.8157981	2.6657475
16	5703.44	574876	0.0881359	5/6/19 13:21	0.0316965	0.9806897	4.83028E+13	2.6860221	6.70217E+12	0.027458	0.8495505	2.6860221
17	5705.99	574876	0.0881753	5/6/19 13:26	0.0316965	0.9806897	4.83028E+13	2.687223	6.70217E+12	0.0295297	0.9136489	2.687223
18	5706.85	574876	0.0881886	5/6/19 13:31	0.0316965	0.9806897	4.83028E+13	2.687628	6.70217E+12	0.029437	0.9107808	2.687628
19	5726.52	574876	0.0884926	5/6/19 13:36	0.0316965	0.9806897	4.83028E+13	2.6968915	6.70217E+12	0.0294468	0.911084	2.6968915
20	5727.41	574876	0.0885064	5/6/19 13:41	0.0316965	0.9806897	4.83028E+13	2.6973107	6.70217E+12	0.0291977	0.9033768	2.6973107
21	5742.95	574876	0.0887465	5/6/19 13:46	0.0316965	0.9806897	4.83028E+13	2.7046292	6.70217E+12	0.0461903	1.4291279	2.7046292
22	5734.03	574876	0.0886086	5/6/19 13:51	0.0316965	0.9806897	4.83028E+13	2.7004284	6.70217E+12	0.0300478	0.9296789	2.7004284
23	5731.45	574876	0.0885688	5/6/19 13:56	0.0316965	0.9806897	4.83028E+13	2.6992133	6.70217E+12	0.023358	0.7722695	2.6992133
24	5739.99	574877	0.0901743	5/6/19 14:01	0.0292446	0.9048279	4.75135E+13	2.7481417	6.70217E+12	0.0252541	0.7813619	2.7481417
25	5749.1	574877	0.0903174	5/6/19 14:06	0.0292446	0.9048279	4.75135E+13	2.7525033	6.70217E+12	0.022385	0.6925919	2.7525033
26	5732.99	574877	0.0900643	5/6/19 14:11	0.0292446	0.9048279	4.75135E+13	2.7447903	6.70217E+12	0.0278815	0.8626536	2.7447903
27	5722.65	574878	0.0904991	5/6/19 14:16	0.0292446	0.9048279	4.71999E+13	2.7580421	6.70217E+12	0.0276273	0.8547887	2.7580421
28	5719.43	574878	0.0904482	5/6/19 14:21	0.0292446	0.9048279	4.71999E+13	2.7564902	6.70217E+12	0.0401146	1.2411457	2.7564902
29	5727.52	574878	0.0905761	5/6/19 14:26	0.0292446	0.9048279	4.71999E+13	2.7603892	6.70217E+12	0.0357633	1.1065165	2.7603892
30	5719.12	574878	0.0904433	5/6/19 14:31	0.0292446	0.9048279	4.71999E+13	2.7563408	6.70217E+12	0.0216376	0.6694673	2.7563408
31	5720.06	574880	0.0904384	5/6/19 14:37	0.0292446	0.9048279	4.72102E+13	2.7561911	6.70217E+12	0.0206897	0.6401393	2.7561911
32	5730.64	574880	0.0906057	5/6/19 14:42	0.0292446	0.9048279	4.72102E+13	2.7612891	6.70217E+12	0.0212322	0.6569243	2.7612891
33	5734.69	574880	0.0906697	5/6/19 14:47	0.0292446	0.9048279	4.72102E+13	2.7632406	6.70217E+12	0.0214839	0.6647119	2.7632406
34	5739.31	574881	0.090775	5/6/19 14:52	0.0292446	0.9048279	4.71935E+13	2.7664494	6.70217E+12	0.0212921	0.6587776	2.7664494
35	5736.72	574882	0.0910352	5/6/19 14:57	0.0292446	0.9048279	4.70373E+13	2.7743811	6.70217E+12	0.020696	0.6403342	2.7743811
36	5741.99	574883	0.0905084	5/6/19 15:02	0.0212846	0.6585455	4.73545E+13	2.7583257	6.70217E+12	0.0203623	0.6300096	2.7583257
37	5733.24	574885	0.0890821	5/6/19 15:07	0.0212846	0.6585455	4.80395E+13	2.7148565	6.70217E+12	0.0198016	0.6126615	2.7148565
38	5724.73	574886	0.0885552	5/6/19 15:12	0.0212846	0.6585455	4.82535E+13	2.6988006	6.70217E+12	0.0190006	0.5878786	2.6988006
39	5709.73	574886	0.0883232	5/6/19 15:17	0.0212846	0.6585455	4.82535E+13	2.6917292	6.70217E+12	0.0184907	0.5721023	2.6917292
40	5678.11	574887	0.088385	5/6/19 15:22	0.0212846	0.6585455	4.79528E+13	2.6936119	6.70217E+12	0.023136	0.7158278	2.6936119
41	5683.73	574888	0.0873487	5/6/19 15:27	0.0212846	0.6585455	4.85697E+13	2.6620299	6.70217E+12	0.0165815	0.5130316	2.6620299
42	5681.84	574891	0.0832705	5/6/19 15:32	0.0212846	0.6585455	5.09315E+13	2.53477429	6.70217E+12	0.0157946	0.4886849	2.53477429
43	5697.16	574891	0.083495	5/6/19 15:37	0.0212846	0.6585455	5.09315E+13	2.5445855	6.70217E+12	0.0722406	2.2351242	2.5445855
44	5684.36	574892	0.0835678	5/6/19 15:42	0.0212846	0.6585455	5.07728E+13	2.5468044	6.70217E+12	0.025128	0.7774603	2.5468044
45	5683.95	574894	0.0819393	5/6/19 15:47	0.0212846	0.6585455	5.17781E+13	2.4971743	6.70217E+12	0.0141482	0.4377453	2.4971743
46	5700.28	574894	0.0821747	5/6/19 15:52	0.0212846	0.6585455	5.17781E+13	2.5043487	6.70217E+12	0.0158794	0.4913086	2.5043487
47	5700.01	574895	0.0825354	5/6/19 15:57	0.0212846	0.6585455	5.15494E+13	2.5153441	6.70217E+12	0.0142467	0.4407929	2.5153441
48	5696.94	574897	0.0824036	5/6/19 16:02	0.0282033	0.8726101	5.16041E+13	2.5113225	6.70217E+12	0.0193804	0.5996296	2.5113225
49	5700.76	574897	0.0824588	5/6/19 16:07	0.0282033	0.8726101	5.16041E+13	2.5130065	6.70217E+12	0.0145181	0.44919	2.5130065
50	5684.53	574897	0.0822241	5/6/19 16:12	0.0282033	0.8726101	5.16041E+13	2.505852	6.70217E+12	0.0157287	0.486646	2.505852
51	5689.74	574897	0.0822994	5/6/19 16:18	0.0282033	0.8726101	5.16041E+13	2.5081486	6.70217E+12	0.0162324	0.5022305	2.5081486
52	5682.26	574897	0.0821912	5/6/19 16:23	0.0282033	0.8726101	5.16041E+13	2.5048513	6.70217E+12	0.0157041	0.4858849	2.5048513

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
53	5686.59	574898	0.0828228	5/6/19 16:28	0.0282033	0.8726101	5.12496E+13	2.5240987	6.70217E+12	0.0148626	0.4598488	2.5240987
54	5681.45	574899	0.0829971	5/6/19 16:33	0.0282033	0.8726101	5.10957E+13	2.5294123	6.70217E+12	0.0141661	0.4382991	2.5294123
55	5684.86	574899	0.0830469	5/6/19 16:38	0.0282033	0.8726101	5.10957E+13	2.5309305	6.70217E+12	0.0039202	0.121291	2.5309305
56	5679.5	574899	0.0829686	5/6/19 16:43	0.0282033	0.8726101	5.10957E+13	2.5285442	6.70217E+12	0.0059038	0.1826636	2.5285442
57	5681.53	574901	0.0836257	5/6/19 16:48	0.0282033	0.8726101	5.07124E+13	2.5485671	6.70217E+12	0.0056964	0.1762466	2.5485671
58	5689.99	574902	0.0837969	5/6/19 16:53	0.0282033	0.8726101	5.06841E+13	2.5537859	6.70217E+12	0.0098804	0.3056996	2.5537859
59	5691.01	574903	0.0831196	5/6/19 16:58	0.0282033	0.8726101	5.11063E+13	2.5331438	6.70217E+12	0.0072672	0.2248472	2.5331438
60	5699.02	574904	0.0827156	5/6/19 17:03	0.0245371	0.7591779	5.14281E+13	2.5208339	6.70217E+12	0.0100674	0.3114854	2.5208339
61	5700.57	574905	0.0827554	5/6/19 17:08	0.0245371	0.7591779	5.14174E+13	2.5220451	6.70217E+12	0.0086099	0.2663903	2.5220451
62	5695.51	574906	0.0812506	5/6/19 17:13	0.0245371	0.7591779	5.23232E+13	2.4761856	6.70217E+12	0.0053846	0.1665995	2.4761856
63	5694.8	574907	0.0809439	5/6/19 17:18	0.0245371	0.7591779	5.25149E+13	2.4668388	6.70217E+12	0.0017196	0.0532044	2.4668388
64	5695.29	574907	0.0809509	5/6/19 17:23	0.0245371	0.7591779	5.25149E+13	2.467051	6.70217E+12	0.0048459	0.1499321	2.467051
65	5711.94	574907	0.0811875	5/6/19 17:28	0.0245371	0.7591779	5.25149E+13	2.4742634	6.70217E+12	0.0072046	0.2229103	2.4742634
66	5717.52	574908	0.0815164	5/6/19 17:33	0.0245371	0.7591779	5.23541E+13	2.4842862	6.70217E+12	0.0173188	0.5358437	2.4842862
67	5717.19	574908	0.0815117	5/6/19 17:38	0.0245371	0.7591779	5.23541E+13	2.4841428	6.70217E+12	0.0107967	0.3340499	2.4841428
68	5709.94	574908	0.0814083	5/6/19 17:43	0.0245371	0.7591779	5.23541E+13	2.4809927	6.70217E+12	0.0175668	0.5435168	2.4809927
69	5706.05	574908	0.0813529	5/6/19 17:48	0.0245371	0.7591779	5.23541E+13	2.4793025	6.70217E+12	0.0040943	0.1266776	2.4793025
70	5698.01	574909	0.0821371	5/6/19 17:53	0.0245371	0.7591779	5.17812E+13	2.5032013	6.70217E+12	0.0062052	0.1919889	2.5032013
71	5704.79	574909	0.0822348	5/6/19 17:59	0.0245371	0.7591779	5.17812E+13	2.5061798	6.70217E+12	0.0060673	0.1877223	2.5061798
72	5706.81	574909	0.0822639	5/6/19 18:04	0.0188872	0.58437	5.17812E+13	2.5070672	6.70217E+12	0.004964	0.1535862	2.5070672
73	5699.44	574910	0.0819668	5/6/19 18:09	0.0188872	0.58437	5.19018E+13	2.4980119	6.70217E+12	0.0096617	0.298933	2.4980119
74	5697.53	574910	0.0819393	5/6/19 18:14	0.0188872	0.58437	5.19018E+13	2.4971748	6.70217E+12	0.0094749	0.2931534	2.4971748
75	5693.01	574910	0.0818743	5/6/19 18:19	0.0188872	0.58437	5.19018E+13	2.4951937	6.70217E+12	0.0097717	0.3023364	2.4951937
76	5693.01	574910	0.0818743	5/6/19 18:24	0.0188872	0.58437	5.19018E+13	2.4951937	6.70217E+12	0.0113155	0.3501016	2.4951937
77	5693.94	574911	0.0828462	5/6/19 18:29	0.0188872	0.58437	5.13013E+13	2.5248113	6.70217E+12	-0.0060949	-0.1885762	2.5248113
78	5699.57	574911	0.0829281	5/6/19 18:34	0.0188872	0.58437	5.13013E+13	2.5273078	6.70217E+12	0.0003233	0.0100029	2.5273078
79	5698.15	574912	0.0833531	5/6/19 18:39	0.0188872	0.58437	5.1027E+13	2.540262	6.70217E+12	0.0028852	0.0892681	2.540262
80	5693.81	574913	0.0834471	5/6/19 18:44	0.0188872	0.58437	5.09307E+13	2.5431267	6.70217E+12	0.0066411	0.2054756	2.5431267
81	5686.01	574914	0.0818977	5/6/19 18:49	0.0188872	0.58437	5.18232E+13	2.4959076	6.70217E+12	0.0059357	0.1836506	2.4959076
82	5685.94	574915	0.0814507	5/6/19 18:54	0.0188872	0.58437	5.21069E+13	2.4822846	6.70217E+12	-0.0011344	-0.0350983	2.4822846
83	5683.4	574915	0.0814144	5/6/19 18:59	0.0188872	0.58437	5.21069E+13	2.4811757	6.70217E+12	0.0001905	0.0058941	2.4811757
84	5694.85	574915	0.0815784	5/6/19 19:04	0.0193163	0.5976463	5.21069E+13	2.4861744	6.70217E+12	0.0002833	0.0087653	2.4861744
85	5721.14	574915	0.081955	5/6/19 19:09	0.0193163	0.5976463	5.21069E+13	2.4976517	6.70217E+12	0.0025406	0.0786062	2.4976517
86	5732.53	574915	0.0821181	5/6/19 19:14	0.0193163	0.5976463	5.21069E+13	2.5026242	6.70217E+12	0.0016449	0.0508932	2.5026242
87	5732.74	574915	0.0821211	5/6/19 19:19	0.0193163	0.5976463	5.21069E+13	2.5027159	6.70217E+12	0.0041178	0.1274047	2.5027159
88	5730.27	574915	0.0820848	5/6/19 19:24	0.0193163	0.5976463	5.21069E+13	2.501607	6.70217E+12	-0.000019	-0.0005879	2.501607
89	5737.27	574915	0.082186	5/6/19 19:29	0.0193163	0.5976463	5.21069E+13	2.5046935	6.70217E+12	-0.0002028	-0.0062746	2.5046935
90	5731.74	574915	0.0821068	5/6/19 19:34	0.0193163	0.5976463	5.21069E+13	2.5027293	6.70217E+12	0.0002309	0.007144	2.5027293
91	5727.94	574915	0.0820524	5/6/19 19:40	0.0193163	0.5976463	5.21069E+13	2.5006204	6.70217E+12	0.0130869	0.4049087	2.5006204
92	5741.23	574915	0.0822428	5/6/19 19:45	0.0193163	0.5976463	5.21069E+13	2.5064223	6.70217E+12	0.0122933	0.3803547	2.5064223
93	5740.52	574915	0.0822326	5/6/19 19:50	0.0193163	0.5976463	5.21069E+13	2.5061123	6.70217E+12	0.0089193	0.2759631	2.5061123
94	5749.19	574916	0.08668	5/6/19 19:55	0.0193163	0.5976463	4.9508E+13	2.6416525	6.70217E+12	0.0021355	0.0660724	2.6416525
95	5745.01	574916	0.086617	5/6/19 20:00	0.0241251	0.7464306	4.9508E+13	2.6397319	6.70217E+12	-0.001813	-0.0560942	2.6397319
96	5763.99	574916	0.0869032	5/6/19 20:05	0.0241251	0.7464306	4.9508E+13	2.6484528	6.70217E+12	-0.0003708	-0.0114726	2.6484528
97	5769.68	574916	0.086989	5/6/19 20:10	0.0241251	0.7464306	4.9508E+13	2.6510673	6.70217E+12	0.0062241	0.1925737	2.6510673
98	5769.14	574917	0.0882187	5/6/19 20:15	0.0241251	0.7464306	4.88133E+13	2.6885453	6.70217E+12	0.0116013	0.3589442	2.6885453
99	5755.39	574917	0.0880085	5/6/19 20:20	0.0241251	0.7464306	4.88133E+13	2.6821375	6.70217E+12	0.0009813	0.0303614	2.6821375
100	5754.1	574917	0.0879887	5/6/19 20:25	0.0241251	0.7464306	4.88133E+13	2.6815363	6.70217E+12	-0.0161407	-0.4993933	2.6815363
101	5771.1	574917	0.0882487	5/6/19 20:30	0.0241251	0.7464306	4.88133E+13	2.6894587	6.70217E+12	-0.0174708	-0.5405466	2.6894587
102	5764.05	574918	0.0890788	5/6/19 20:35	0.0241251	0.7464306	4.82994E+13	2.714756	6.70217E+12	-0.0175085	-0.541713	2.714756
103	5752.2	574918	0.0888956	5/6/19 20:40	0.0241251	0.7464306	4.82994E+13	2.7091749	6.70217E+12	-0.0038463	-0.1190045	2.7091749

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
104	5755.49	574918	0.0889465	5/6/19 20:45	0.0241251	0.7464306	4.82994E+13	2.7107244	6.70217E+12	-0.0004318	-0.0133599	2.7107244
105	5762.02	574919	0.0902091	5/6/19 20:50	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	0.0004104	0.0126978	2.7492027
106	5760.7	574919	0.0901884	5/6/19 20:55	0.0241251	0.7464306	4.76774E+13	2.7485729	6.70217E+12	-0.0009508	-0.0294178	2.7485729
107	5762.49		0.0902164	5/6/19 21:02	0.0175071	0.5416697	4.76774E+13	2.749427		0.0007073	0.0218839	2.749427
108	5774.99	574920	0.1001885	5/6/19 21:19	0.0175071	0.5242793	4.74463E+13	2.9553058	6.70217E+12	-0.0013119	-0.039287	2.9553058
109	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
110	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
111	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
112	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
113	5843.89	574923	0.1041911	5/6/19 21:52	0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
114	5889.14	574923	0.1049979	5/6/19 21:57	0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
115	5938.96	574925	0.1060149	5/6/19 22:02	0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
116	5924.06	574925	0.105749	5/6/19 22:07	0.0137884	0.4129166	4.61118E+13	3.1193265	6.70217E+12	0.00183554	-0.549683	3.1193265
117	5904.4	574925	0.105398	5/6/19 22:15	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
118	5904.4	574925	0.105398	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
119	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
120	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
121	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
122	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
123	5900.68	574927	0.1057464	5/6/19 22:23	0.0137884	0.4129166	4.59309E+13	3.119251	6.70217E+12	0.0035913	0.1075475	3.119251
124	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
125	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
126	5898.4	574930	0.1031447	5/6/19 22:35	0.0137884	0.4129166	4.70713E+13	3.0425064	6.70217E+12	-0.0289922	-0.8682197	3.0425064
127	5893.05	574930	0.1030511	5/6/19 22:37	0.0137884	0.4129166	4.70713E+13	3.0397468	6.70217E+12	-0.0289922	-0.8682197	3.0397468
128	5897.36	574930	0.1031265	5/6/19 22:42	0.0137884	0.4129166	4.70713E+13	3.04197	6.70217E+12	-0.0236925	-0.7095114	3.04197
129	5899.22	574931	0.1032757	5/6/19 22:47	0.0137884	0.4129166	4.70181E+13	3.046371	6.70217E+12	-0.0155618	-0.466024	3.046371
130	5901.5	574931	0.1033156	5/6/19 22:52	0.0137884	0.4129166	4.70181E+13	3.0475484	6.70217E+12	-0.0215767	-0.6461502	3.0475484
131	5895.01	574932	0.1028817	5/6/19 22:57	0.0137884	0.4129166	4.71645E+13	3.0347496	6.70217E+12	-0.0188905	-0.5657075	3.0347496
132	5882.85	574943	0.1003326	5/7/19 0:02	0.0098383	0.2946243	4.8263E+13	2.9595589	6.70217E+12	-0.002652	-0.0794186	2.9595589
133	5891.99	574943	0.1004885	5/7/19 0:07	0.0098383	0.2946243	4.8263E+13	2.9641571	6.70217E+12	0.0003922	0.0117451	2.9641571
134	5896.7	574944	0.1020246	5/7/19 0:12	0.0098383	0.2946243	4.75743E+13	3.0094662	6.70217E+12	0.0109642	0.3283412	3.0094662
135	5903.84	574944	0.1021481	5/7/19 0:17	0.0098383	0.2946243	4.75743E+13	3.0131102	6.70217E+12	0.0001877	0.005621	3.0131102
136	5911.06	574944	0.102273	5/7/19 0:22	0.0098383	0.2946243	4.75743E+13	3.0167951	6.70217E+12	-0.0190565	-0.5706787	3.0167951
137	5885.39	574945	0.1028414	5/7/19 0:27	0.0098383	0.2946243	4.71059E+13	3.0335618	6.70217E+12	-0.005721	-0.1713249	3.0335618
138	5895.99	574945	0.1030267	5/7/19 0:32	0.0098383	0.2946243	4.71059E+13	3.0390254	6.70217E+12	0.005387	0.1613227	3.0390254
139	5897.07	574945	0.1030455	5/7/19 0:37	0.0098383	0.2946243	4.71059E+13	3.0395821	6.70217E+12	0.0090961	0.2723979	3.0395821
140	5898.51	574945	0.1030707	5/7/19 0:42	0.0098383	0.2946243	4.71059E+13	3.0403243	6.70217E+12	0.0000416	0.0012458	3.0403243
141	5901.99	574945	0.1031315	5/7/19 0:47	0.0098383	0.2946243	4.71059E+13	3.0421181	6.70217E+12	0.0002217	0.0066392	3.0421181
142	5889.59	574946	0.1043197	5/7/19 0:52	0.0098383	0.2946243	4.64716E+13	3.0771656	6.70217E+12	-0.0026672	-0.0798737	3.0771656
143	5889.01	574947	0.1040736	5/7/19 0:57	0.0098383	0.2946243	4.65768E+13	3.0699085	6.70217E+12	-0.0003307	-0.0099034	3.0699085
144	5877.69	574947	0.1038736	5/7/19 1:02	0.0105202	0.3150449	4.65768E+13	3.0640074	6.70217E+12	-0.0003011	-0.0090169	3.0640074
145	5889.43	574948	0.1042298	5/7/19 1:07	0.0105202	0.3150449	4.65104E+13	3.0745154	6.70217E+12	-0.0001362	-0.0040787	3.0745154
146	5887.99	574948	0.1042043	5/7/19 1:12	0.0105202	0.3150449	4.65104E+13	3.0737637	6.70217E+12	0.0091898	0.2752039	3.0737637
147	5867.4	574948	0.1038399	5/7/19 1:17	0.0105202	0.3150449	4.65104E+13	3.0630149	6.70217E+12	0.0091883	0.275159	3.0630149
148	5883.85	574950	0.1044213	5/7/19 1:22	0.0105202	0.3150449	4.63811E+13	3.0801634	6.70217E+12	0.0098517	0.2950256	3.0801634
149	5871.24	574950	0.1041975	5/7/19 1:27	0.0105202	0.3150449	4.63811E+13	3.0735621	6.70217E+12	0.0110652	0.3313659	3.0735621
150	5870.35	574950	0.1041817	5/7/19 1:32	0.0105202	0.3150449	4.63811E+13	3.0730962	6.70217E+12	0.0117356	0.3514421	3.0730962
151	5880.51	574950	0.104362	5/7/19 1:37	0.0105202	0.3150449	4.63811E+13	3.0784149	6.70217E+12	0.0114298	0.3422844	3.0784149
152	5887.56	574951	0.1056193	5/7/19 1:42	0.0105202	0.3150449	4.58839E+13	3.1155019	6.70217E+12	0.0158031	0.4732502	3.1155019
153	5888.94	574951	0.1056441	5/7/19 1:47	0.0105202	0.3150449	4.58839E+13	3.1162321	6.70217E+12	0.0139082	0.4165042	3.1162321
154	5890.07	574951	0.1056643	5/7/19 1:52	0.0105202	0.3150449	4.58839E+13	3.1168301	6.70217E+12	0.0141407	0.4234668	3.1168301

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
155	5887.93	574952	0.1061226	5/7/19 1:57	0.0105202	0.3150449	4.56692E+13	3.1303483	6.70217E+12	0.0129154	0.3867732	3.1303483
156	5879.77	574953	0.1056897	5/7/19 2:02	0.011378	0.3407332	4.57927E+13	3.117579	6.70217E+12	0.0142018	0.4252966	3.117579
157	5880.52	574954	0.1043159	5/7/19 2:07	0.011378	0.3407332	4.64017E+13	3.0770561	6.70217E+12	0.0139436	0.4175643	3.0770561
158	5875.01	574954	0.1042182	5/7/19 2:12	0.011378	0.3407332	4.64017E+13	3.074173	6.70217E+12	0.0105143	0.3148682	3.074173
159	5873.6	574954	0.1041932	5/7/19 2:17	0.011378	0.3407332	4.64017E+13	3.0734352	6.70217E+12	0.0094361	0.2825797	3.0734352
160	5871.85	574955	0.1044686	5/7/19 2:22	0.011378	0.3407332	4.62656E+13	3.0815582	6.70217E+12	0.0088951	0.2663786	3.0815582
161	5871.01	574956	0.103617	5/7/19 2:27	0.011378	0.3407332	4.66391E+13	3.0564397	6.70217E+12	0.0093072	0.2787196	3.0564397
162	5859.85	574956	0.1034201	5/7/19 2:32	0.011378	0.3407332	4.66391E+13	3.0506298	6.70217E+12	0.0120542	0.3609831	3.0506298
163	5865.94	574956	0.1035275	5/7/19 2:37	0.011378	0.3407332	4.66391E+13	3.0538003	6.70217E+12	0.0128926	0.3860904	3.0538003
164	5869.1	574956	0.1035833	5/7/19 2:42	0.011378	0.3407332	4.66391E+13	3.0554454	6.70217E+12	0.0141064	0.4224397	3.0554454
165	5877.6	574956	0.1037333	5/7/19 2:47	0.011378	0.3407332	4.66391E+13	3.0598705	6.70217E+12	0.0141304	0.4231584	3.0598705
166	5877.18	574957	0.1057538	5/7/19 2:52	0.011378	0.3407332	4.57448E+13	3.1194692	6.70217E+12	0.0141067	0.4224486	3.1194692
167	5885.01	574958	0.1054291	5/7/19 2:57	0.011378	0.3407332	4.59468E+13	3.1098919	6.70217E+12	0.0188926	0.5657704	3.1098919
168	5882.93	574958	0.1056834	5/7/19 3:02	0.010606	0.3312281	4.582E+13	3.1173937	6.70217E+12	0.0159616	0.4779967	3.1173937
169	5880.11	574959	0.1056328	5/7/19 3:07	0.010606	0.3312281	4.582E+13	3.1158994	6.70217E+12	0.0162983	0.4880798	3.1158994
170	5876.76	574959	0.1055726	5/7/19 3:12	0.010606	0.3312281	4.582E+13	3.1141242	6.70217E+12	0.0123771	0.3706529	3.1141242
171	5875.44	574959	0.1055489	5/7/19 3:17	0.010606	0.3312281	4.582E+13	3.1134247	6.70217E+12	0.0104838	0.3139549	3.1134247
172	5868.65	574959	0.1054269	5/7/19 3:22	0.010606	0.3312281	4.582E+13	3.1098266	6.70217E+12	0.0135372	0.405394	3.1098266
173	5871.6	574959	0.1054799	5/7/19 3:27	0.010606	0.3312281	4.582E+13	3.1113899	6.70217E+12	0.0142273	0.4260602	3.1113899
174	5871.6	574959	0.1054799	5/7/19 3:32	0.010606	0.3312281	4.582E+13	3.1113899	6.70217E+12	0.0143862	0.4308187	3.1113899
175	5877.57	574959	0.1055871	5/7/19 3:37	0.010606	0.3312281	4.582E+13	3.1145534	6.70217E+12	0.0142716	0.4273868	3.1145534
176	5876.48	574959	0.1055676	5/7/19 3:42	0.010606	0.3312281	4.582E+13	3.1139758	6.70217E+12	0.0142134	0.425644	3.1139758
177	5868.98	574960	0.109055	5/7/19 3:47	0.010606	0.3312281	4.42981E+13	3.2168461	6.70217E+12	0.0124885	0.3739889	3.2168461
178	5865.34	574960	0.1089874	5/7/19 3:52	0.010606	0.3312281	4.42981E+13	3.2148509	6.70217E+12	0.0128153	0.3837755	3.2148509
179	5869.73	574961	0.1097753	5/7/19 3:57	0.010606	0.3312281	4.40131E+13	3.2380924	6.70217E+12	0.0125425	0.3756061	3.2380924
180	5876.57	574962	0.1082718	5/7/19 4:02	0.0132424	0.3965657	4.46763E+13	3.1937442	6.70217E+12	0.012019	0.359929	3.1937442
181	5864.77	574962	0.1080544	5/7/19 4:07	0.0132424	0.3965657	4.46763E+13	3.1873313	6.70217E+12	0.0116681	0.3494207	3.1873313
182	5870.49	574963	0.1086102	5/7/19 4:12	0.0132424	0.3965657	4.4491E+13	3.2037267	6.70217E+12	0.012883	0.3858029	3.2037267
183	5892.85	574964	0.1086378	5/7/19 4:17	0.0132424	0.3965657	4.46491E+13	3.2045387	6.70217E+12	0.0113387	0.3395563	3.2045387
184	5893.36	574964	0.1086472	5/7/19 4:22	0.0132424	0.3965657	4.46491E+13	3.204816	6.70217E+12	0.0115719	0.3465398	3.204816
185	5890.81	574964	0.1086002	5/7/19 4:27	0.0132424	0.3965657	4.46491E+13	3.2034293	6.70217E+12	0.0118547	0.3550087	3.2034293
186	5894.23	574965	0.1080396	5/7/19 4:32	0.0132424	0.3965657	4.49069E+13	3.1868941	6.70217E+12	0.0122344	0.3663795	3.1868941
187	5898.56	574965	0.108119	5/7/19 4:37	0.0132424	0.3965657	4.49069E+13	3.1892353	6.70217E+12	0.0138738	0.4154741	3.1892353
188	5908.64	574965	0.1083037	5/7/19 4:42	0.0132424	0.3965657	4.49069E+13	3.1946853	6.70217E+12	0.014388	0.4308726	3.1946853
189	5915.11	574965	0.1084223	5/7/19 4:47	0.0132424	0.3965657	4.49069E+13	3.1981835	6.70217E+12	0.0166224	0.4977855	3.1981835
190	5909.7	574965	0.1083231	5/7/19 4:52	0.0132424	0.3965657	4.49069E+13	3.1952584	6.70217E+12	0.0144629	0.4331156	3.1952584
191	5906.81	574966	0.1085559	5/7/19 4:57	0.0132424	0.3965657	4.47887E+13	3.2021242	6.70217E+12	0.014704	0.4403358	3.2021242
192	5914.74	574966	0.1087016	5/7/19 5:02	0.0163996	0.4911134	4.47887E+13	3.2064231	6.70217E+12	0.0082133	0.245961	3.2064231
193	5917.1	574967	0.109481	5/7/19 5:07	0.0163996	0.4911134	4.44875E+13	3.2294129	6.70217E+12	0.0137796	0.4126531	3.2294129
194	5912.39	574967	0.1093939	5/7/19 5:12	0.0163996	0.4911134	4.44875E+13	3.2268423	6.70217E+12	0.0156701	0.4692673	3.2268423
195	5894.35	574968	0.1094478	5/7/19 5:17	0.0163996	0.4911134	4.433E+13	3.2284315	6.70217E+12	0.0146488	0.4386827	3.2284315
196	5898.35	574968	0.109522	5/7/19 5:22	0.0163996	0.4911134	4.433E+13	3.2306223	6.70217E+12	0.0145908	0.4369458	3.2306223
197	5902.16	574969	0.1079698	5/7/19 5:27	0.0163996	0.4911134	4.49963E+13	3.1848344	6.70217E+12	0.0155564	0.4658623	3.1848344
198	5900.85	574969	0.1079458	5/7/19 5:32	0.0163996	0.4911134	4.49963E+13	3.1841275	6.70217E+12	0.0134736	0.4034894	3.1841275
199	5900.34	574969	0.1079365	5/7/19 5:37	0.0163996	0.4911134	4.49963E+13	3.1838523	6.70217E+12	0.0130804	0.3917144	3.1838523
200	5898.32	574969	0.1078995	5/7/19 5:42	0.0163996	0.4911134	4.49963E+13	3.1827623	6.70217E+12	0.0152049	0.4553361	3.1827623
201	5896.02	574970	0.1092694	5/7/19 5:47	0.0163996	0.4911134	4.44149E+13	3.2231712	6.70217E+12	0.0153738	0.4603941	3.2231712
202	5901.06	574971	0.1070272	5/7/19 5:52	0.0163996	0.4911134	4.53842E+13	3.1570311	6.70217E+12	0.0162384	0.486286	3.1570311
203	5889.23	574971	0.1068126	5/7/19 5:57	0.0163996	0.4911134	4.53842E+13	3.1507021	6.70217E+12	0.0142736	0.4274168	3.1507021
204	5888.81	574971	0.106805	5/7/19 6:02	0.0219988	0.6587907	4.53842E+13	3.1504774	6.70217E+12	0.0140196	0.4198403	3.1504774
205	5888.88	574971	0.1068063	5/7/19 6:07	0.0219988	0.6587907	4.53842E+13	3.1505149	6.70217E+12	0.0128572	0.3850303	3.1505149

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
206	5894.99	574971	0.1069171	5/7/19 6:12	0.0219988	0.6587907	4.53842E+13	3.1537837	6.70217E+12	0.0139901	0.4189569	3.1537837
207	5888.93	574973	0.1083283	5/7/19 6:17	0.0219988	0.6587907	4.47469E+13	3.1954116	6.70217E+12	0.0169327	0.5070779	3.1954116
208	5883.23	574973	0.1082235	5/7/19 6:22	0.0219988	0.6587907	4.47469E+13	3.1923187	6.70217E+12	0.0161834	0.4846389	3.1923187
209	5874.07	574973	0.108055	5/7/19 6:27	0.0219988	0.6587907	4.47469E+13	3.1873483	6.70217E+12	0.0160255	0.4799103	3.1873483
210	5873.01	574975	0.1081041	5/7/19 6:32	0.0219988	0.6587907	4.47185E+13	3.1887959	6.70217E+12	0.0161849	0.4846838	3.1887959
211	5877.1	574977	0.1051264	5/7/19 6:37	0.0219988	0.6587907	4.60172E+13	3.1009613	6.70217E+12	0.0160886	0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1041746	6.70217E+12	0.01829	0.5477245	3.1041746
213	5883.91	574979	0.1039877	5/7/19 6:47	0.0219988	0.6587907	4.6575E+13	3.0673739	6.70217E+12	0.0197193	0.5905273	3.0673739
214	5887.01	574980	0.1024096	5/7/19 6:52	0.0219988	0.6587907	4.73176E+13	3.0208243	6.70217E+12	0.0172624	0.5169513	3.0208243
215	5890.93	574981	0.1023627	5/7/19 6:57	0.0219988	0.6587907	4.73708E+13	3.0194404	6.70217E+12	0.0219934	0.658629	3.0194404
216	5891.99	574981	0.1023811	5/7/19 7:02	0.0252156	0.7551232	4.73708E+13	3.0199837	6.70217E+12	0.0190854	0.5715441	3.0199837
217	5901.6	574981	0.1025481	5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094	6.70217E+12	0.022021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	5/7/19 7:12	0.0252156	0.7551232	4.72845E+13	3.0296666	6.70217E+12	0.019538	0.585098	3.0296666
219	5902.76	574982	0.1021815	5/7/19 7:17	0.0252156	0.7551232	4.75501E+13	3.0140942	6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/19 7:22	0.0252156	0.7551232	4.73864E+13	3.0240881	6.70217E+12	0.0333844	0.9997515	3.0240881
221	5902.21	574986	0.1024856	5/7/19 7:27	0.0252156	0.7551232	4.74046E+13	3.0230648	6.70217E+12	0.0226755	0.6790556	3.0230648
222	5897.09	574987	0.1012514	5/7/19 7:32	0.0252156	0.7551232	4.79408E+13	2.9866604	6.70217E+12	0.0258656	0.7745885	2.9866604
223	5891.39	574988	0.1001624	5/7/19 7:37	0.0252156	0.7551232	4.84152E+13	2.9545379	6.70217E+12	0.0217027	0.6499235	2.9545379
224	5896.98	574988	0.1002575	5/7/19 7:42	0.0252156	0.7551232	4.84152E+13	2.9573413	6.70217E+12	0.0181457	0.5434032	2.9573413
225	5915.01	574989	0.0992602	5/7/19 7:47	0.0252156	0.7551232	4.90511E+13	2.9279253	6.70217E+12	0.0175618	0.5259174	2.9279253
226	5909.89	574989	0.0991743	5/7/19 7:52	0.0252156	0.7551232	4.90511E+13	2.9253909	6.70217E+12	0.0176235	0.527651	2.9253909
227	5907.41	574990	0.0997661	5/7/19 7:57	0.0252156	0.7551232	4.87396E+13	2.9428486	6.70217E+12	0.2076065	6.2171227	6.2171227
228	5909.98	574990	0.0998095	5/7/19 8:02	0.0276548	0.8281691	4.87396E+13	2.9441289	6.70217E+12	0.3509108	10.5086088	10.5086088
229	5885.9	574991	0.1001084	5/7/19 8:07	0.0276548	0.8281691	4.83962E+13	2.9529431	6.70217E+12	1.0618156	31.7978378	31.7978378
230	5894.01	574991	0.1002463	5/7/19 8:12	0.0276548	0.8281691	4.83962E+13	2.9570118	6.70217E+12	0.3477068	10.4126596	10.4126596
231	5901.61	574991	0.1003756	5/7/19 8:17	0.0276548	0.8281691	4.83962E+13	2.9608247	6.70217E+12	0.2233212	6.6877255	6.6877255
232	5901.01	574993	0.0990295	5/7/19 8:22	0.0276548	0.8281691	4.9049E+13	2.9211197	6.70217E+12	0.1839307	5.5081114	5.5081114
233	5896.99	574993	0.098962	5/7/19 8:27	0.0276548	0.8281691	4.9049E+13	2.9191298	6.70217E+12	0.2097637	6.2817236	6.2817236
234	5903.12	574994	0.0985656	5/7/19 8:32	0.0276548	0.8281691	4.92975E+13	2.9074343	6.70217E+12	0.0304959	0.9132506	2.9074343
235	5904.99	574994	0.0985968	5/7/19 8:37	0.0276548	0.8281691	4.92975E+13	2.9083554	6.70217E+12	0.0229099	0.6860751	2.9083554
236	5928.02	574994	0.0989813	5/7/19 8:42	0.0276548	0.8281691	4.92975E+13	2.9196982	6.70217E+12	0.023268	0.696799	2.9196982
237	5918.93	574994	0.0988295	5/7/19 8:47	0.0276548	0.8281691	4.92975E+13	2.9152212	6.70217E+12	0.0200853	0.6014878	2.9152212
238	5920.48	574994	0.0988554	5/7/19 8:52	0.0276548	0.8281691	4.92975E+13	2.9159846	6.70217E+12	0.02447	0.7327949	2.9159846
239	5927.27	574996	0.1000578	5/7/19 8:57	0.0276548	0.8281691	4.8761E+13	2.9514506	6.70217E+12	0.0185494	0.5554927	2.9514506
240	5970.03	574997	0.0973284	5/7/19 9:02	0.0268411	0.8038015	5.049E+13	2.8709404	6.70217E+12	0.0182697	0.5471166	2.8709404
241	5896.92	574997	0.0961365	5/7/19 9:07	0.0268411	0.8038015	5.049E+13	2.8357824	6.70217E+12	0.0189375	0.567115	2.8357824
242	5876.01	574998	0.0954385	5/7/19 9:12	0.0268411	0.8038015	5.06789E+13	2.8151949	6.70217E+12	0.0203296	0.6088038	2.8151949
243	5818.78	574999	0.0935121	5/7/19 9:17	0.0268411	0.8038015	5.12192E+13	2.758369	6.70217E+12	0.0194987	0.5839211	2.758369
244	5836.61	574999	0.0937986	5/7/19 9:22	0.0268411	0.8038015	5.12192E+13	2.7668213	6.70217E+12	0.0190273	0.5698042	2.7668213
245	5852.94	574999	0.094061	5/7/19 9:27	0.0268411	0.8038015	5.12192E+13	2.7745624	6.70217E+12	0.0201623	0.6037937	2.7745624
246	5843.39	575000	0.0949282	5/7/19 9:32	0.0268411	0.8038015	5.06685E+13	2.8001417	6.70217E+12	0.0195915	0.5867001	2.8001417
247	5840.9	575000	0.0948878	5/7/19 9:37	0.0268411	0.8038015	5.06685E+13	2.7989485	6.70217E+12	0.0208798	0.6252804	2.7989485
248	5844.44	575000	0.0949453	5/7/19 9:42	0.0268411	0.8038015	5.06685E+13	2.8006448	6.70217E+12	0.0199536	0.5975438	2.8006448
249	5831.94	575001	0.0948603	5/7/19 9:47	0.0268411	0.8038015	5.06054E+13	2.7981392	6.70217E+12	0.0196606	0.5887694	2.7981392
250	5840.78	575003	0.0941941	5/7/19 9:52	0.0268411	0.8038015	5.10406E+13	2.7784869	6.70217E+12	0.0187964	0.5628895	2.7784869
251	5839.47	575003	0.094175	5/7/19 9:57	0.0268411	0.8038015	5.10406E+13	2.7778637	6.70217E+12	0.0188057	0.563168	2.7778637
252	5836.55	575003	0.0941259	5/7/19 9:58	0.0268411	0.8038015	5.10406E+13	2.7764747	6.70217E+12	0.0188057	0.561368	2.7764747
253	5843.59	575003	0.0942394	5/7/19 10:03	0.0287164	0.8599605	5.10406E+13	2.7798236	6.70217E+12	0.0202762	0.6072046	2.7798236
254	5851.93	575003	0.0943739	5/7/19 10:08	0.0287164	0.8599605	5.10406E+13	2.783791	6.70217E+12	0.0195808	0.5863797	2.783791
255	5840.6	575003	0.0941912	5/7/19 10:13	0.0287164	0.8599605	5.10406E+13	2.7784013	6.70217E+12	0.0202654	0.6068812	2.7784013
256	5841.73	575003	0.0942094	5/7/19 10:18	0.0287164	0.8599605	5.10406E+13	2.7789388	6.70217E+12	0.020167	0.6039344	2.7789388

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
257	5837.26	575004	0.0966021	5/7/19 10:23	0.0287164	0.8599605	4.97383E+13	2.8495172	6.70217E+12	0.0196567	0.5886526	2.8495172
258	5843.1	575004	0.0966987	5/7/19 10:28	0.0287164	0.8599605	4.97383E+13	2.852368	6.70217E+12	0.0207215	0.6205399	2.852368
259	5843.45	575005	0.0974035	5/7/19 10:35	0.0287164	0.8599605	4.93814E+13	2.871576	6.70217E+12	0.0201838	0.6044375	2.871576
260	5841.01	575005	0.0973629	5/7/19 10:35	0.0287164	0.8599605	4.93814E+13	2.8719579	6.70217E+12	0.0198071	0.5931566	2.8719579
261	5844.02	575005	0.097413	5/7/19 10:42	0.0287164	0.8599605	4.93814E+13	2.8734379	6.70217E+12	0.0200159	0.5994095	2.8734379
262	5844.02	575005	0.097413	5/7/19 10:43	0.0287164	0.8599605	4.93814E+13	2.8734379	6.70217E+12	0.0200159	0.5994095	2.8734379
263	5843.32	575005	0.0974014	5/7/19 10:43	0.0287164	0.8599605	4.93814E+13	2.8730937	6.70217E+12	0.0200159	0.5994095	2.8730937
264	5843.32	575005	0.0974014	5/7/19 10:44	0.0287164	0.8599605	4.93814E+13	2.8730937	6.70217E+12	0.0200159	0.5994095	2.8730937
265	5843.18	575005	0.097399	5/7/19 10:45	0.0287164	0.8599605	4.93814E+13	2.8730249	6.70217E+12	0.0201643	0.6038536	2.8730249
266	5843.18	575005	0.097399	5/7/19 10:46	0.0287164	0.8599605	4.93814E+13	2.8730249	6.70217E+12	0.0201643	0.6038536	2.8730249
267	5843.81	575005	0.0974095	5/7/19 10:48	0.0287164	0.8599605	4.93814E+13	2.8733347	6.70217E+12	0.0201643	0.6038536	2.8733347
268	5855.01	575005	0.0975962	5/7/19 10:51	0.0287164	0.8599605	4.93814E+13	2.8788416	6.70217E+12	0.0202597	0.6067105	2.8788416
269	5853.18	575005	0.0975657	5/7/19 10:52	0.0287164	0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
270	5853.18	575005	0.0975657	5/7/19 10:53	0.0287164	0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
271	5854.99	575005	0.0975959	5/7/19 10:58	0.0287164	0.8599605	4.93814E+13	2.8788317	6.70217E+12	0.0204901	0.6136102	2.8788317
272	5855.01	575005	0.0975962	5/7/19 11:03	0.0273473	0.8189605	4.93814E+13	2.8788416	6.70217E+12	0.019272	0.5771322	2.8788416
273	5862.23	575005	0.0977166	5/7/19 11:08	0.0273473	0.8189605	4.93814E+13	2.8823916	6.70217E+12	0.0185107	0.5543338	2.8823916
274	5868.68	575005	0.0978241	5/7/19 11:13	0.0273473	0.8189605	4.93814E+13	2.885563	6.70217E+12	0.0182389	0.5461943	2.885563
275	5877.1	575005	0.0979644	5/7/19 11:18	0.0273473	0.8189605	4.93814E+13	2.889703	6.70217E+12	0.0175485	0.5255191	2.889703
276	5880.82	575006	0.1020763	5/7/19 11:23	0.0273473	0.8189605	4.74222E+13	3.0109929	6.70217E+12	0.0171425	0.5133607	3.0109929
277	5885.64	575007	0.1017322	5/7/19 11:28	0.0273473	0.8189605	4.76216E+13	3.000843	6.70217E+12	0.0161012	0.4821773	3.000843
278	5888.81	575007	0.101787	5/7/19 11:33	0.0273473	0.8189605	4.76216E+13	3.0024592	6.70217E+12	0.0167836	0.5026129	3.0024592
279	5887.01	575007	0.1017559	5/7/19 11:38	0.0273473	0.8189605	4.76216E+13	3.0015415	6.70217E+12	0.017405	0.5212217	3.0015415
280	5885.87	575009	0.1022383	5/7/19 11:43	0.0273473	0.8189605	4.73877E+13	3.0157712	6.70217E+12	0.0181379	0.5431696	3.0157712
281	5882.45	575010	0.1025602	5/7/19 11:48	0.0273473	0.8189605	4.72115E+13	3.0252654	6.70217E+12	0.0188967	0.5658932	3.0252654
282	5889.31	575010	0.1026798	5/7/19 11:53	0.0273473	0.8189605	4.72115E+13	3.0287934	6.70217E+12	0.0191234	0.5726821	3.0287934
283	5888.74	575011	0.1032466	5/7/19 11:58	0.0273473	0.8189605	4.69478E+13	3.0455122	6.70217E+12	0.0189953	0.5688459	3.0455122
284	5894.74	575011	0.1033518	5/7/19 12:03	0.0270574	0.8102789	4.69478E+13	3.0486153	6.70217E+12	0.0201972	0.6048388	3.0486153
285	5895.72	575011	0.1033689	5/7/19 12:08	0.0270574	0.8102789	4.69478E+13	3.0491221	6.70217E+12	0.0246114	0.7370294	3.0491221
286	5907.12	575011	0.1035688	5/7/19 12:13	0.0270574	0.8102789	4.69478E+13	3.0550179	6.70217E+12	0.0195085	0.5842145	3.0550179
287	5908.19	575013	0.1040015	5/7/19 12:18	0.0270574	0.8102789	4.67609E+13	3.0677806	6.70217E+12	0.0177224	0.5307268	3.0677806
288	5895.99	575013	0.1037867	5/7/19 12:23	0.0270574	0.8102789	4.67609E+13	3.0614459	6.70217E+12	0.0163821	0.4905893	3.0614459
289	5898.02	575014	0.1043706	5/7/19 12:27	0.0270574	0.8102789	4.65154E+13	3.0786681	6.70217E+12	0.0162962	0.4880169	3.0786681
290	5895.6	575014	0.1043278	5/7/19 12:32	0.0270574	0.8102789	4.65154E+13	3.0774049	6.70217E+12	0.0164602	0.4929281	3.0774049
291	5887.34	575016	0.1041844	5/7/19 12:37	0.0270574	0.8102789	4.65141E+13	3.0731761	6.70217E+12	0.0200409	0.6001582	3.0731761
292	5889.4	575016	0.1042209	5/7/19 12:42	0.0270574	0.8102789	4.65141E+13	3.0742514	6.70217E+12	0.0215114	0.6441947	3.0742514
293	5893.65	575016	0.1042961	5/7/19 12:47	0.0270574	0.8102789	4.65141E+13	3.0764699	6.70217E+12	0.020945	0.6272329	3.0764699
294	5893.83	575018	0.1033386	5/7/19 12:52	0.0270574	0.8102789	4.69465E+13	3.0482275	6.70217E+12	0.0215906	0.6465665	3.0482275
295	5890.09	575018	0.103273	5/7/19 12:57	0.0270574	0.8102789	4.69465E+13	3.0462932	6.70217E+12	0.0199465	0.5973312	3.0462932
296	5887.86	575018	0.1032339	5/7/19 13:02	0.0260477	0.78000418	4.69465E+13	3.0451399	6.70217E+12	0.0182097	0.5453198	3.0451399
297	5877.45	575018	0.1030514	5/7/19 13:07	0.0260477	0.78000418	4.69465E+13	3.0397559	6.70217E+12	0.0171154	0.5125492	3.0397559
298	5880.76	575018	0.1031095	5/7/19 13:12	0.0260477	0.78000418	4.69465E+13	3.0414678	6.70217E+12	0.0158291	0.4740288	3.0414678
299	5885.01	575018	0.103184	5/7/19 13:17	0.0260477	0.78000418	4.69465E+13	3.0436659	6.70217E+12	0.0156969	0.4700698	3.0436659
300	5886.65	575019	0.105185	5/7/19 13:22	0.0260477	0.78000418	4.60663E+13	3.10269	6.70217E+12	0.0194576	0.5826903	3.10269
301	5886.81	575019	0.1051878	5/7/19 13:27	0.0260477	0.78000418	4.60663E+13	3.1027744	6.70217E+12	0.0237637	0.7116436	3.1027744
302	5886.02	575019	0.1051737	5/7/19 13:32	0.0260477	0.78000418	4.60663E+13	3.102358	6.70217E+12	0.034183	1.0236669	3.102358
303	5878.86	575019	0.1050458	5/7/19 13:37	0.0260477	0.78000418	4.60663E+13	3.0985841	6.70217E+12	0.0423059	14.443454	14.443454
304	5879.94	575019	0.1050651	5/7/19 13:42	0.0260477	0.78000418	4.60663E+13	3.0991534	6.70217E+12	0.1343145	4.0222716	4.0222716
305	5872.78	575020	0.1055767	5/7/19 13:47	0.0260477	0.78000418	4.57872E+13	3.1142442	6.70217E+12	0.0287544	0.8610984	3.1142442
306	5868.57	575020	0.105501	5/7/19 13:52	0.0260477	0.78000418	4.57872E+13	3.1120117	6.70217E+12	0.0442637	1.3255503	3.1120117
307	5877.6	575020	0.1056633	5/7/19 13:57	0.0260477	0.78000418	4.57872E+13	3.1168002	6.70217E+12	0.0156508	0.4686893	3.1168002

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
308	5880.3	575021	0.1070192	5/7/19 14:02	0.025584	0.7661555	4.52279E+13	3.156795	6.70217E+12	0.0212368	0.6359714	3.156795
309	5873.1	575021	0.1068882	5/7/19 14:07	0.025584	0.7661555	4.52279E+13	3.1529297	6.70217E+12	0.0135226	0.4049568	3.1529297
310	5856.76	575021	0.1065908	5/7/19 14:12	0.025584	0.7661555	4.52279E+13	3.1441577	6.70217E+12	0.0161145	0.4825756	3.1441577
311	5835.32	575021	0.1062006	5/7/19 14:17	0.025584	0.7661555	4.52279E+13	3.1326478	6.70217E+12	0.021294	0.6376843	3.1326478
312	5823.7	575021	0.1059891	5/7/19 14:22	0.025584	0.7661555	4.52279E+13	3.1264097	6.70217E+12	0.0232619	0.6966164	3.1264097
313	5823.9	575021	0.1059927	5/7/19 14:27	0.025584	0.7661555	4.52279E+13	3.1265171	6.70217E+12	0.0186602	0.5588108	3.1265171
314	5844.51	575021	0.1063678	5/7/19 14:32	0.025584	0.7661555	4.52279E+13	3.1375814	6.70217E+12	0.0221179	0.6623574	3.1375814
315	5852.73	575022	0.1090264	5/7/19 14:37	0.025584	0.7661555	4.41871E+13	3.2160024	6.70217E+12	0.0160534	0.4807458	3.2160024
316	5842.59	575022	0.1088375	5/7/19 14:42	0.025584	0.7661555	4.41871E+13	3.2104306	6.70217E+12	0.0139152	0.4167139	3.2104306
317	5844.51	575023	0.1093454	5/7/19 14:47	0.025584	0.7661555	4.39963E+13	3.225412	6.70217E+12	0.0096897	0.2901742	3.225412
318	5842.77	575023	0.1093128	5/7/19 14:52	0.025584	0.7661555	4.39963E+13	3.2244517	6.70217E+12	0.0082441	0.2468833	3.2244517
319	5843.27	575023	0.1093222	5/7/19 14:57	0.025584	0.7661555	4.39963E+13	3.2247277	6.70217E+12	0.0080116	0.2399207	3.2247277
320	5849.85	575023	0.1094453	5/7/19 15:02	0.0200751	0.6011823	4.39963E+13	3.228359	6.70217E+12	0.004172	0.1249375	3.228359
321	5844.11	575023	0.1093379	5/7/19 15:07	0.0200751	0.6011823	4.39963E+13	3.2251913	6.70217E+12	0.0063173	0.1891821	3.2251913
322	5838.69	575023	0.1092365	5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12	0.0074128	0.2219887	3.2222001
323	5843.57	575023	0.1093278	5/7/19 15:17	0.0200751	0.6011823	4.39963E+13	3.2248932	6.70217E+12	0.0068169	0.2041434	3.2248932
324	5844.99	575023	0.1093469	5/7/19 15:22	0.0200751	0.6011823	4.39963E+13	3.2254562	6.70217E+12	0.0173942	0.5208983	3.2254562
325	5849.99	575023	0.1094479	5/7/19 15:27	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0160868	0.481746	3.2284363
326	5849.99	575023	0.1094479	5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
327	5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
328	5861.7	575023	0.109667	5/7/19 15:42	0.0200751	0.6011823	4.39963E+13	3.2348987	6.70217E+12	0.0164337	0.4921345	3.2348987
329	5871.48	575024	0.1144475	5/7/19 15:47	0.0200751	0.6011823	4.22289E+13	3.3759101	6.70217E+12	0.0172669	0.5170861	3.3759101
330	5859.1	575024	0.1142061	5/7/19 15:52	0.0200751	0.6011823	4.22289E+13	3.368792	6.70217E+12	0.0085437	0.2558553	3.368792
331	5854.1	575025	0.1144044	5/7/19 15:57	0.0200751	0.6011823	4.21197E+13	3.3746406	6.70217E+12	0.0200752	0.6011853	3.3746406
332	5843.22	575026	0.1144995	5/7/19 16:02	0.0216225	0.6475218	4.20066E+13	3.3774456	6.70217E+12	0.0220984	0.6617734	3.3774456
333	5853.43	575026	0.1146996	5/7/19 16:07	0.0216225	0.6475218	4.20066E+13	3.3833471	6.70217E+12	0.0156725	0.4693391	3.3833471
334	5856.16	575026	0.1147531	5/7/19 16:12	0.0216225	0.6475218	4.20066E+13	3.384925	6.70217E+12	0.0214597	0.6426465	3.384925
335	5854.02	575026	0.1147111	5/7/19 16:17	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12	0.0239835	0.7182259	3.3836881
336	5850.81	575026	0.1146482	5/7/19 16:22	0.0216225	0.6475218	4.20066E+13	3.3818327	6.70217E+12	0.0167074	0.5003309	3.3818327
337	5854.62	575027	0.1163454	5/7/19 16:27	0.0216225	0.6475218	4.14207E+13	3.4318944	6.70217E+12	0.0156102	0.4674735	3.4318944
338	5855.8	575028	0.1157465	5/7/19 16:32	0.0216225	0.6475218	4.16435E+13	3.4142287	6.70217E+12	0.0163249	0.4888763	3.4142287
339	5856.74	575029	0.1142802	5/7/19 16:37	0.0216225	0.6475218	4.21846E+13	3.3709755	6.70217E+12	0.0175314	0.525007	3.3709755
340	5868.02	575029	0.1145003	5/7/19 16:42	0.0216225	0.6475218	4.21846E+13	3.3774679	6.70217E+12	0.0151098	0.4524881	3.3774679
341	5872.51	575029	0.1145879	5/7/19 16:47	0.0216225	0.6475218	4.21846E+13	3.3800522	6.70217E+12	0.0146534	0.4388205	3.3800522
342	5871.99	575029	0.1145777	5/7/19 16:52	0.0216225	0.6475218	4.21846E+13	3.3797529	6.70217E+12	0.0175759	0.5763396	3.3797529
343	5880.77	575029	0.1147491	5/7/19 16:57	0.0216225	0.6475218	4.21846E+13	3.3848064	6.70217E+12	0.0063504	0.1901733	3.3848064
344	5889.98	575029	0.1149288	5/7/19 17:02	0.0204922	0.6136731	4.21846E+13	3.3881217	6.70217E+12	0.0061338	0.1836869	3.3881217
345	5885.6	575031	0.1147437	5/7/19 17:07	0.0204922	0.6136731	4.21846E+13	3.3901075	6.70217E+12	0.0028472	0.0852641	3.3901075
346	5883.88	575032	0.1144564	5/7/19 17:12	0.0204922	0.6136731	4.22212E+13	3.3846492	6.70217E+12	0.0111196	0.332995	3.3846492
347	5871.02	575033	0.114058	5/7/19 17:17	0.0204922	0.6136731	4.23148E+13	3.3761744	6.70217E+12	0.0197231	0.5906411	3.3761744
348	5872.05	575033	0.114078	5/7/19 17:22	0.0204922	0.6136731	4.23698E+13	3.3650113	6.70217E+12	0.0099314	0.2974123	3.3650113
349	5878.77	575034	0.1147072	5/7/19 17:27	0.0204922	0.6136731	4.21856E+13	3.3835727	6.70217E+12	0.0135307	0.4051994	3.3835727
350	5877.4	575034	0.1146805	5/7/19 17:32	0.0204922	0.6136731	4.21856E+13	3.3827841	6.70217E+12	0.0143791	0.4306061	3.3827841
351	5880.39	575034	0.1147388	5/7/19 17:37	0.0204922	0.6136731	4.21856E+13	3.3845051	6.70217E+12	0.0171643	0.5140136	3.3845051
352	5871.98	575034	0.1145747	5/7/19 17:42	0.0204922	0.6136731	4.21856E+13	3.3796646	6.70217E+12	0.0179472	0.5374588	3.3796646
353	5878.4	575035	0.1155377	5/7/19 17:47	0.0204922	0.6136731	4.18797E+13	3.4080684	6.70217E+12	0.0182428	0.5463111	3.4080684
354	5886.62	575035	0.1156992	5/7/19 17:52	0.0204922	0.6136731	4.18797E+13	3.4128341	6.70217E+12	0.0280718	0.8406568	3.4128341
355	5886.23	575036	0.1119906	5/7/19 17:57	0.0194272	0.5817799	4.33372E+13	3.3034392	6.70217E+12	0.4423178	13.2459437	13.2459437
356	5898.4	575036	0.1120318	5/7/19 18:02	0.0194272	0.5817799	4.33372E+13	3.304655	6.70217E+12	0.19554	5.8557712	5.8557712
357	5899.98	575036	0.1120618	5/7/19 18:08	0.0194272	0.5817799	4.33372E+13	3.3055402	6.70217E+12	0.0183816	0.5504676	3.3055402
358	5899.98	575036	0.1120618	5/7/19 18:13	0.0194272	0.5817799	4.33372E+13	3.3055402	6.70217E+12	0.0183816	0.5504676	3.3055402

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
359	5899.98	575037	0.1118805	5/7/19 18:18	0.0194272	0.5817799	4.34075E+13	3.3001905	6.70217E+12	0.0124839	0.3738512	3.3001905
360	5901.99	575039	0.1087922	5/7/19 18:23	0.0194272	0.5817799	4.46549E+13	3.2090942	6.70217E+12	0.0063404	0.1898738	3.2090942
361	5898.01	575040	0.1082466	5/7/19 18:28	0.0194272	0.5817799	4.48497E+13	3.1930006	6.70217E+12	0.0069752	0.208884	3.1930006
362	5899.19	575041	0.1069708	5/7/19 18:33	0.0194272	0.5817799	4.53937E+13	3.1553672	6.70217E+12	0.0117867	0.3529724	3.1553672
363	5858.01	575041	0.1062241	5/7/19 18:38	0.0194272	0.5817799	4.53937E+13	3.1333408	6.70217E+12	0.0008215	0.0246012	3.1333408
364	5832.84	575041	0.1057677	5/7/19 18:43	0.0194272	0.5817799	4.53937E+13	3.1198778	6.70217E+12	0.007936	0.2376567	3.1198778
365	5825.57	575042	0.1062064	5/7/19 18:48	0.0194272	0.5817799	4.51499E+13	3.1328187	6.70217E+12	0.0131193	0.3928793	3.1328187
366	5730.23	575042	0.1044682	5/7/19 18:53	0.0194272	0.5817799	4.51499E+13	3.0815477	6.70217E+12	0.0147234	0.4409168	3.0815477
367	5765.61	575042	0.1051132	5/7/19 18:58	0.0194272	0.5817799	4.51499E+13	3.100574	6.70217E+12	0.015851	0.4746846	3.100574
368	5698.35	575042	0.103887	5/7/19 19:03	0.0208363	0.6239777	4.51499E+13	3.0644036	6.70217E+12	0.0143949	0.4310793	3.0644036
369	5728.93	575043	0.104596	5/7/19 19:08	0.0208363	0.6239777	4.50844E+13	3.0853184	6.70217E+12	0.0085453	0.2559033	3.0853184
370	5726.34	575044	0.1042417	5/7/19 19:13	0.0208363	0.6239777	4.52172E+13	3.0748672	6.70217E+12	0.0131066	0.392499	3.0748672
371	5721.68	575044	0.1041569	5/7/19 19:18	0.0208363	0.6239777	4.52172E+13	3.072365	6.70217E+12	0.0074483	0.2230518	3.072365
372	5740.89	575044	0.1045066	5/7/19 19:23	0.0208363	0.6239777	4.52172E+13	3.0826801	6.70217E+12	0.0220669	0.6608301	3.0826801
373	5739.97	575047	0.1037772	5/7/19 19:28	0.0208363	0.6239777	4.55277E+13	3.0611659	6.70217E+12	0.0206216	0.6175482	3.0611659
374	5762.15	575047	0.1041783	5/7/19 19:33	0.0208363	0.6239777	4.55277E+13	3.0729946	6.70217E+12	0.0227412	0.6810231	3.0729946
375	5772.32	575048	0.1046881	5/7/19 19:38	0.0208363	0.6239777	4.5386E+13	3.0880343	6.70217E+12	0.0213669	0.6398674	3.0880343
376	5757.52	575048	0.1044197	5/7/19 19:43	0.0208363	0.6239777	4.5386E+13	3.0801167	6.70217E+12	0.0192512	0.5765093	3.0801167
377	5780.76	575048	0.1048412	5/7/19 19:48	0.0208363	0.6239777	4.5386E+13	3.0925494	6.70217E+12	0.0184615	0.5528604	3.0925494
378	5772.27	575049	0.1062044	5/7/19 19:53	0.0208363	0.6239777	4.47376E+13	3.1327595	6.70217E+12	0.0170593	0.5108692	3.1327595
379	5763.53	575049	0.1060435	5/7/19 19:58	0.0208363	0.6239777	4.47376E+13	3.128016	6.70217E+12	0.0193825	0.5804413	3.128016
380	5774.99	575049	0.1062544	5/7/19 20:03	0.0214057	0.6410294	4.47376E+13	3.1342357	6.70217E+12	0.0225229	0.6744858	3.1342357
381	5785.64	575050	0.1067275	5/7/19 20:08	0.0214057	0.6410294	4.46214E+13	3.1481898	6.70217E+12	0.0200782	0.6012752	3.1481898
382	5794.65	575051	0.1065264	5/7/19 20:13	0.0214057	0.6410294	4.47753E+13	3.1422582	6.70217E+12	0.0189119	0.5663484	3.1422582
383	5794.99	575052	0.105856	5/7/19 20:18	0.0214057	0.6410294	4.50615E+13	3.1224836	6.70217E+12	0.0168789	0.5054668	3.1224836
384	5777.32	575052	0.1055332	5/7/19 20:23	0.0214057	0.6410294	4.50615E+13	3.11129625	6.70217E+12	0.0188787	0.5653541	3.1129625
385	5779.44	575052	0.1055719	5/7/19 20:28	0.0214057	0.6410294	4.50615E+13	3.1141049	6.70217E+12	0.0185028	0.5540972	3.1141049
386	5784.49	575053	0.1069047	5/7/19 20:33	0.0214057	0.6410294	4.45386E+13	3.1534189	6.70217E+12	0.0168679	0.5051374	3.1534189
387	5792.26	575054	0.1071284	5/7/19 20:38	0.0214057	0.6410294	4.45053E+13	3.1600161	6.70217E+12	0.0100913	0.3022008	3.1600161
388	5794.99	575055	0.1078127	5/7/19 20:43	0.0214057	0.6410294	4.42437E+13	3.1802017	6.70217E+12	0.0159387	0.4773109	3.1802017
389	5798.99	575056	0.1065136	5/7/19 20:48	0.0214057	0.6410294	4.48142E+13	3.1418807	6.70217E+12	0.0155694	0.4662516	3.1418807
390	5799.99	575056	0.1065319	5/7/19 20:53	0.0214057	0.6410294	4.48142E+13	3.1424225	6.70217E+12	0.0120816	0.3618036	3.1424225
391	5792.47	575056	0.1063938	5/7/19 20:58	0.0214057	0.6410294	4.48142E+13	3.1383482	6.70217E+12	0.0121052	0.3625104	3.1383482
392	5783.99	575057	0.1071229	5/7/19 21:03	0.0187353	0.5610598	4.4444E+13	3.1598544	6.70217E+12	0.0062082	0.1859149	3.1598544
393	5798.01	575060	0.1064196	5/7/19 21:08	0.0187353	0.5610598	4.48462E+13	3.1391083	6.70217E+12	0.0101617	0.304309	3.1391083
394	5804.99	575060	0.1065477	5/7/19 21:13	0.0187353	0.5610598	4.48462E+13	3.1428873	6.70217E+12	0.0147359	0.4412911	3.1428873
395	5804.47	575060	0.1065382	5/7/19 21:18	0.0187353	0.5610598	4.48462E+13	3.1426058	6.70217E+12	0.0161425	0.4834141	3.1426058
396	5797.19	575061	0.1077196	5/7/19 21:23	0.0187353	0.5610598	4.42987E+13	3.1774565	6.70217E+12	0.0166747	0.4993517	3.1774565
397	5796.01	575062	0.1073179	5/7/19 21:28	0.0187353	0.5610598	4.44555E+13	3.1656063	6.70217E+12	0.0162576	0.4868609	3.1656063
398	5796.91	575062	0.1073346	5/7/19 21:33	0.0187353	0.5610598	4.44555E+13	3.1660978	6.70217E+12	0.0154972	0.4640895	3.1660978
399	5804.49	575063	0.1082426	5/7/19 21:38	0.0187353	0.5610598	4.41402E+13	3.1928815	6.70217E+12	0.0140195	0.4198373	3.1928815
400	5807.51	575063	0.1082989	5/7/19 21:43	0.0187353	0.5610598	4.41402E+13	3.1945427	6.70217E+12	0.0138085	0.4135185	3.1945427
401	5806.56	575064	0.107581	5/7/19 21:48	0.0187353	0.5610598	4.44275E+13	3.1733683	6.70217E+12	0.0123646	0.3702786	3.1733683
402	5797.78	575064	0.1074184	5/7/19 21:53	0.0187353	0.5610598	4.44275E+13	3.1685699	6.70217E+12	0.0135325	0.4052533	3.1685699
403	5793.65	575064	0.1073419	5/7/19 21:58	0.0187353	0.5610598	4.44275E+13	3.1663128	6.70217E+12	0.0143717	0.4303845	3.1663128
404	5778.02	575065	0.1070536	5/7/19 22:03	0.0092857	0.2780758	4.44269E+13	3.1578114	6.70217E+12	0.0159167	0.4766521	3.1578114
405	5773.43	575066	0.1052104	5/7/19 22:08	0.0092857	0.2780758	4.51693E+13	3.1034402	6.70217E+12	0.0153253	0.4589417	3.1034402
406	5779.39	575067	0.1054664	5/7/19 22:13	0.0092857	0.2780758	4.51062E+13	3.1109906	6.70217E+12	0.0139439	0.4175733	3.1109906
407	5791.59	575067	0.105689	5/7/19 22:18	0.0092857	0.2780758	4.51062E+13	3.1175577	6.70217E+12	0.0131096	0.3925888	3.1175577
408	5790.02	575067	0.1056603	5/7/19 22:23	0.0092857	0.2780758	4.51062E+13	3.1167126	6.70217E+12	0.0122573	0.3670653	3.1167126
409	5782.94	575067	0.1055311	5/7/19 22:28	0.0092857	0.2780758	4.51062E+13	3.1129015	6.70217E+12	0.0136306	0.408191	3.1129015

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
410	5775.43	575067	0.1053941	5/7/19 22:33	0.0092857	0.2780758	4.51062E+13	3.1088589	6.70217E+12	0.0135185	0.404834	3.1088589
411	5779.99	575068	0.1067775	5/7/19 22:38	0.0092857	0.2780758	4.4557E+13	3.1496656	6.70217E+12	0.0130395	0.3904896	3.1496656
412	5785.55	575068	0.1068802	5/7/19 22:43	0.0092857	0.2780758	4.4557E+13	3.1526954	6.70217E+12	0.0132167	0.3957967	3.1526954
413	5776.9	575070	0.1064823	5/7/19 22:48	0.0092857	0.2780758	4.46566E+13	3.1409571	6.70217E+12	0.0151927	0.4549707	3.1409571
414	5782.35	575070	0.1065827	5/7/19 22:53	0.0092857	0.2780758	4.46566E+13	3.1439203	6.70217E+12	0.0127496	0.381808	3.1439203
415	5778.56	575070	0.1065129	5/7/19 22:58	0.0092857	0.2780758	4.46566E+13	3.1418596	6.70217E+12	0.01094	0.3276165	3.1418596
416	5807.88	575077	0.1057164	5/8/19 0:03	0.010744	0.321747	4.52214E+13	3.1183659	6.70217E+12	0.0116913	0.3501155	3.1183659
417	5804.11	575077	0.1056478	5/8/19 0:08	0.010744	0.321747	4.52214E+13	3.1163417	6.70217E+12	0.0120928	0.3621391	3.1163417
418	5801.23	575078	0.1058179	5/8/19 0:13	0.010744	0.321747	4.51263E+13	3.1213604	6.70217E+12	0.0121536	0.3639598	3.1213604
419	5791.66	575078	0.1056434	5/8/19 0:18	0.010744	0.321747	4.51263E+13	3.1162113	6.70217E+12	0.0124538	0.3729498	3.1162113
420	5795.5	575078	0.1057134	5/8/19 0:23	0.010744	0.321747	4.51263E+13	3.1182774	6.70217E+12	0.0132227	0.3959758	3.1182774
421	5795.98	575079	0.1065412	5/8/19 0:28	0.010744	0.321747	4.47794E+13	3.1426942	6.70217E+12	0.0133711	0.4004199	3.1426942
422	5799.99	575081	0.102499	5/8/19 0:33	0.010744	0.321747	4.65775E+13	3.0234621	6.70217E+12	0.0173409	0.5193022	3.0234621
423	5804.41	575082	0.1023697	5/8/19 0:38	0.010744	0.321747	4.66719E+13	3.0196463	6.70217E+12	0.0172819	0.5175353	3.0196463
424	5804.82	575084	0.1015622	5/8/19 0:43	0.010744	0.321747	4.70463E+13	2.9958274	6.70217E+12	0.0175389	0.5252316	2.9958274
425	5802.49	575086	0.0989662	5/8/19 0:48	0.010744	0.321747	4.82609E+13	2.9192535	6.70217E+12	0.0173835	0.5205779	2.9192535
426	5795.31	575086	0.0988438	5/8/19 0:53	0.010744	0.321747	4.82609E+13	2.9156412	6.70217E+12	0.0147548	0.4418571	2.9156412
427	5799.55	575087	0.0990391	5/8/19 0:58	0.010744	0.321747	4.8201E+13	2.9214025	6.70217E+12	0.0135535	0.4058821	2.9214025
428	5810.52	575087	0.0992264	5/8/19 1:03	0.0116366	0.3484774	4.8201E+13	2.9269284	6.70217E+12	0.0126685	0.3793793	2.9269284
429	5818.01	575087	0.0993543	5/8/19 1:08	0.0116366	0.3484774	4.8201E+13	2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	5/8/19 1:13	0.0116366	0.3484774	4.86011E+13	2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431	5817.19	575090	0.0973429	5/8/19 1:18	0.0116366	0.3484774	4.91901E+13	2.8713676	6.70217E+12	0.0126278	0.3781605	2.8713676
432	5820.91	575090	0.0974051	5/8/19 1:23	0.0116366	0.3484774	4.91901E+13	2.8732038	6.70217E+12	0.0125071	0.374546	2.8732038
433	5831.99	575090	0.0975905	5/8/19 1:28	0.0116366	0.3484774	4.91901E+13	2.8786729	6.70217E+12	0.0125147	0.3747735	2.8786729
434	5837.72	575090	0.0976864	5/8/19 1:33	0.0116366	0.3484774	4.91901E+13	2.8815012	6.70217E+12	0.0030723	0.0920051	2.8815012
435	5825.57	575090	0.0974831	5/8/19 1:38	0.0116366	0.3484774	4.91901E+13	2.875504	6.70217E+12	0.0007008	0.0209866	2.875504
436	5834.9	575090	0.0976392	5/8/19 1:43	0.0116366	0.3484774	4.91901E+13	2.8801093	6.70217E+12	0.002842	0.0851084	2.8801093
437	5839.94	575090	0.0977235	5/8/19 1:49	0.0116366	0.3484774	4.91901E+13	2.882597	6.70217E+12	0.0029206	0.0874622	2.882597
438	5834.68	575090	0.0976355	5/8/19 1:54	0.0116366	0.3484774	4.91901E+13	2.8800007	6.70217E+12	0.0037273	0.1116202	2.8800007
439	5827.66	575090	0.0975181	5/8/19 1:59	0.0116366	0.3484774	4.91901E+13	2.8765356	6.70217E+12	0.0045235	0.1354637	2.8765356
440	5833.57	575090	0.0976717	5/8/19 2:04	0.0119665	0.3583568	4.91901E+13	2.8794528	6.70217E+12	0.005794	0.173511	2.8794528
441	5837.02	575090	0.0976747	5/8/19 2:09	0.0119665	0.3583568	4.91901E+13	2.8811557	6.70217E+12	0.0120927	0.3621361	2.8811557
442	5834.82	575091	0.1021121	5/8/19 2:14	0.0119665	0.3583568	4.70347E+13	3.0120484	6.70217E+12	0.0138694	0.4153423	3.0120484
443	5832.01	575091	0.1020629	5/8/19 2:19	0.0119665	0.3583568	4.70347E+13	3.0105978	6.70217E+12	0.0243003	0.727713	3.0105978
444	5827.28	575091	0.1019802	5/8/19 2:24	0.0119665	0.3583568	4.70347E+13	3.0081561	6.70217E+12	0.0146496	0.4387067	3.0081561
445	5814.3	575091	0.101753	5/8/19 2:29	0.0119665	0.3583568	4.70347E+13	3.0014556	6.70217E+12	0.013417	0.4017944	3.0014556
446	5822.06	575092	0.1015212	5/8/19 2:34	0.0119665	0.3583568	4.72051E+13	2.9946169	6.70217E+12	0.013794	0.4130843	2.9946169
447	5827.69	575092	0.1016193	5/8/19 2:39	0.0119665	0.3583568	4.72051E+13	2.9975127	6.70217E+12	0.0134243	0.402013	2.9975127
448	5825.01	575094	0.1011451	5/8/19 2:44	0.0119665	0.3583568	4.74046E+13	2.9835236	6.70217E+12	0.0173396	0.5192632	2.9835236
449	5825.01	575094	0.1011451	5/8/19 2:49	0.0119665	0.3583568	4.74046E+13	2.9835236	6.70217E+12	0.0160878	0.481776	2.9835236
450	5827.65	575094	0.1011909	5/8/19 2:54	0.0119665	0.3583568	4.74046E+13	2.9848758	6.70217E+12	0.0135423	0.4055467	2.9848758
451	5828.98	575094	0.101214	5/8/19 2:59	0.0119665	0.3583568	4.74046E+13	2.985557	6.70217E+12	0.0119787	0.3587221	2.985557
452	5816.75	575095	0.1023933	5/8/19 3:04	0.0120924	0.3621271	4.67603E+13	3.200342	6.70217E+12	0.007941	0.2378065	3.200342
453	5816.32	575095	0.1023857	5/8/19 3:09	0.0120924	0.3621271	4.67603E+13	3.0201187	6.70217E+12	0.011828	0.3542092	3.0201187
454	5822.73	575095	0.1024985	5/8/19 3:14	0.0120924	0.3621271	4.67603E+13	3.0234471	6.70217E+12	0.0145702	0.4363289	3.0234471
455	5828.4	575095	0.1025983	5/8/19 3:19	0.0120924	0.3621271	4.67603E+13	3.0263913	6.70217E+12	0.0152555	0.4571508	3.0263913
456	5829.18	575097	0.1038705	5/8/19 3:24	0.0120924	0.3621271	4.61938E+13	3.0639178	6.70217E+12	0.0169161	0.5065808	3.0639178
457	5837.98	575097	0.1040273	5/8/19 3:29	0.0120924	0.3621271	4.61938E+13	3.0685432	6.70217E+12	0.0230203	0.6893813	3.0685432
458	5838.98	575098	0.1040229	5/8/19 3:34	0.0120924	0.3621271	4.62037E+13	3.0684122	6.70217E+12	0.0845618	2.532344	3.0684122
459	5828.52	575098	0.1038366	5/8/19 3:39	0.0120924	0.3621271	4.62037E+13	3.0629154	6.70217E+12	0.0234107	0.7010724	3.0629154
460	5822.59	575099	0.1046272	5/8/19 3:44	0.0120924	0.3621271	4.58079E+13	3.0862378	6.70217E+12	0.0168116	0.5034514	3.0862378

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
461	5803.44	575099	0.1042831	5/8/19 3:49	0.0120924	0.3621271	4.58079E+13	3.0760874	6.70217E+12	0.0140409	0.4204782	3.0760874
462	5796.56	575099	0.1041595	5/8/19 3:54	0.0120924	0.3621271	4.58079E+13	3.0724407	6.70217E+12	0.0144936	0.434035	3.0724407
463	5807.05	575101	0.1050426	5/8/19 3:59	0.0120924	0.3621271	4.55049E+13	3.0984912	6.70217E+12	0.0119057	0.356536	3.0984912
464	5809.78	575101	0.105092	5/8/19 4:04	0.0137229	0.4109551	4.55049E+13	3.0999478	6.70217E+12	0.0125622	0.376196	3.0999478
465	5812.68	575101	0.1051445	5/8/19 4:09	0.0137229	0.4109551	4.55049E+13	3.1014952	6.70217E+12	0.0142995	0.4282224	3.1014952
466	5815.61	575102	0.1048815	5/8/19 4:14	0.0137229	0.4109551	4.5642E+13	3.0937385	6.70217E+12	0.0193516	0.5795159	3.0937385
467	5808.55	575103	0.1046033	5/8/19 4:19	0.0137229	0.4109551	4.57078E+13	3.0855325	6.70217E+12	0.0200764	0.6012213	3.0855325
468	5820.01	575104	0.1050843	5/8/19 4:24	0.0137229	0.4109551	4.58884E+13	3.09972	6.70217E+12	0.0189938	0.568801	3.09972
469	5816.06	575105	0.1052763	5/8/19 4:29	0.0137229	0.4109551	4.54744E+13	3.1053836	6.70217E+12	0.0230152	0.6892285	3.1053836
470	5808.82	575106	0.1053792	5/8/19 4:34	0.0137229	0.4109551	4.53734E+13	3.1084182	6.70217E+12	0.0197229	0.5906351	3.1084182
471	5815.31	575106	0.1054969	5/8/19 4:39	0.0137229	0.4109551	4.53734E+13	3.1118911	6.70217E+12	0.0184185	0.5515727	3.1118911
472	5818.61	575108	0.1056718	5/8/19 4:44	0.0137229	0.4109551	4.5324E+13	3.1170516	6.70217E+12	0.0141625	0.4241197	3.1170516
473	5810.51	575108	0.1055247	5/8/19 4:49	0.0137229	0.4109551	4.5324E+13	3.1127124	6.70217E+12	0.0159072	0.4763676	3.1127124
474	5815.11	575108	0.1056083	5/8/19 4:54	0.0137229	0.4109551	4.5324E+13	3.1151766	6.70217E+12	0.0160139	0.4795629	3.1151766
475	5808.22	575109	0.1054956	5/8/19 4:59	0.0137229	0.4109551	4.53187E+13	3.1118531	6.70217E+12	0.0129169	0.3868181	3.1118531
476	5821.06	575109	0.1057288	5/8/19 5:04	0.0172785	0.5174335	4.53187E+13	3.1187323	6.70217E+12	0.0087613	0.2623717	3.1187323
477	5830.24	575109	0.1058956	5/8/19 5:09	0.0172785	0.5174335	4.53187E+13	3.1236507	6.70217E+12	0.0125147	0.3747735	3.1236507
478	5816.12	575110	0.1063653	5/8/19 5:14	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0158514	0.4746966	3.1375074
479	5816.12	575110	0.1063653	5/8/19 5:19	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0145818	0.4366763	3.1375074
480	5811.28	575111	0.1058572	5/8/19 5:24	0.0172785	0.5174335	4.51877E+13	3.1225197	6.70217E+12	0.0159657	0.4781195	3.1225197
481	5814.19	575113	0.1054793	5/8/19 5:29	0.0172785	0.5174335	4.53722E+13	3.1113735	6.70217E+12	0.0189354	0.5670521	3.1113735
482	5822.89	575113	0.1056372	5/8/19 5:34	0.0172785	0.5174335	4.53722E+13	3.1160292	6.70217E+12	0.0168377	0.504233	3.1160292
483	5825.6	575113	0.1056863	5/8/19 5:39	0.0172785	0.5174335	4.53722E+13	3.1174794	6.70217E+12	0.0142709	0.4273659	3.1174794
484	5825.47	575114	0.1057728	5/8/19 5:44	0.0172785	0.5174335	4.53341E+13	3.1200304	6.70217E+12	0.0162737	0.4873431	3.1200304
485	5830.59	575114	0.1058658	5/8/19 5:49	0.0172785	0.5174335	4.53341E+13	3.1227726	6.70217E+12	0.016296	0.4880109	3.1227726
486	5839.34	575114	0.1060247	5/8/19 5:54	0.0172785	0.5174335	4.53341E+13	3.127459	6.70217E+12	0.0078999	0.2365757	3.127459
487	5838.51	575115	0.1055129	5/8/19 5:59	0.0172785	0.5174335	4.55475E+13	3.1123637	6.70217E+12	0.0157437	0.4717473	3.1123637
488	5829.09	575117	0.1054774	5/8/19 6:04	0.0211899	0.6345669	4.54893E+13	3.1113164	6.70217E+12	0.015334	0.4592022	3.1113164
489	5826.85	575117	0.1054369	5/8/19 6:09	0.0211899	0.6345669	4.54893E+13	3.1101208	6.70217E+12	0.0095667	0.2864908	3.1101208
490	5838.53	575118	0.105587	5/8/19 6:14	0.0211899	0.6345669	4.55157E+13	3.1145494	6.70217E+12	0.0126575	0.3790499	3.1145494
491	5843.74	575119	0.1054459	5/8/19 6:19	0.0211899	0.6345669	4.56173E+13	3.1103869	6.70217E+12	0.0159603	0.4779578	3.1103869
492	5843.03	575119	0.1054331	5/8/19 6:24	0.0211899	0.6345669	4.56173E+13	3.110009	6.70217E+12	0.0169939	0.5089107	3.110009
493	5842.51	575119	0.1054237	5/8/19 6:29	0.0211899	0.6345669	4.56173E+13	3.1097323	6.70217E+12	0.0176305	0.5279747	3.1097323
494	5859.77	575120	0.1055662	5/8/19 6:34	0.0211899	0.6345669	4.56903E+13	3.1139353	6.70217E+12	0.0182108	0.5453528	3.1139353
495	5849.16	575120	0.1053751	5/8/19 6:39	0.0211899	0.6345669	4.56903E+13	3.1082971	6.70217E+12	0.0222873	0.6674303	3.1082971
496	5859.91	575120	0.1055687	5/8/19 6:44	0.0211899	0.6345669	4.56903E+13	3.1140097	6.70217E+12	0.0240313	0.7196573	3.1140097
497	5874.94	575120	0.1058395	5/8/19 6:49	0.0211899	0.6345669	4.56903E+13	3.1219968	6.70217E+12	0.0247785	0.7420335	3.1219968
498	5849.77	575122	0.1058251	5/8/19 6:54	0.0211899	0.6345669	4.55007E+13	3.1215733	6.70217E+12	0.035146	1.0525055	3.1215733
499	5847.52	575123	0.1059851	5/8/19 6:59	0.0211899	0.6345669	4.54146E+13	3.1262913	6.70217E+12	0.0331317	0.992184	3.1262913
500	5858.74	575123	0.1061884	5/8/19 7:04	0.0245969	0.7365952	4.54146E+13	3.1322899	6.70217E+12	0.0225584	0.6755489	3.1322899
501	5868.24	575124	0.1046351	5/8/19 7:09	0.0245969	0.7365952	4.61635E+13	3.0864695	6.70217E+12	0.0227738	0.6819994	3.0864695
502	5860.28	575124	0.1044931	5/8/19 7:14	0.0245969	0.7365952	4.61635E+13	3.0822829	6.70217E+12	0.0189208	0.5666149	3.0822829
503	5864.03	575124	0.10456	5/8/19 7:19	0.0245969	0.7365952	4.61635E+13	3.0842552	6.70217E+12	0.0206953	0.6197553	3.0842552
504	5860.24	575125	0.1049602	5/8/19 7:24	0.0245969	0.7365952	4.59578E+13	3.0960609	6.70217E+12	0.0230157	0.6892435	3.0960609
505	5855.35	575125	0.1048726	5/8/19 7:29	0.0245969	0.7365952	4.59578E+13	3.0934774	6.70217E+12	0.0225888	0.6764593	3.0934774
506	5861.24	575125	0.1049781	5/8/19 7:34	0.0245969	0.7365952	4.59578E+13	3.0965892	6.70217E+12	0.0205788	0.6162665	3.0965892
507	5864.22	575125	0.1050315	5/8/19 7:39	0.0245969	0.7365952	4.59578E+13	3.0981636	6.70217E+12	0.0197214	0.5905902	3.0981636
508	5855.4	575125	0.1048735	5/8/19 7:44	0.0245969	0.7365952	4.59578E+13	3.0935039	6.70217E+12	0.0198359	0.5940191	3.0935039
509	5848.68	575126	0.102448	5/8/19 7:49	0.0245969	0.7365952	4.69919E+13	3.0219576	6.70217E+12	0.0296779	0.8887542	3.0219576
510	5843.55	575127	0.1024751	5/8/19 7:54	0.0245969	0.7365952	4.69382E+13	3.0227572	6.70217E+12	0.0208223	0.6235585	3.0227572
511	5851.77	575127	0.1026193	5/8/19 7:59	0.0245969	0.7365952	4.69382E+13	3.0270092	6.70217E+12	0.0230156	0.6892405	3.0270092

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
512	5849.49	575127	0.1025793	5/8/19 8:04	0.0242095	0.7249938	4.69382E+13	3.0258298	6.70217E+12	0.0232039	0.6948795	3.0258298
513	5849.48	575129	0.1024537	5/8/19 8:09	0.0242095	0.7249938	4.69957E+13	3.0221242	6.70217E+12	0.0199092	0.5962142	3.0221242
514	5848.2	575130	0.1023337	5/8/19 8:10	0.0242095	0.7249938	4.70405E+13	3.0185855	6.70217E+12	0.0193885	0.5806209	3.0185855
515	5833.78	575131	0.1018159	5/8/19 8:19	0.0242095	0.7249938	4.71632E+13	3.0033105	6.70217E+12	0.0228642	0.6847066	3.0033105
516	5845.68	575131	0.1020236	5/8/19 8:24	0.0242095	0.7249938	4.71632E+13	3.0094368	6.70217E+12	0.0197323	0.5909166	3.0094368
517	5850.11	575133	0.101054	5/8/19 8:29	0.0242095	0.7249938	4.76518E+13	2.9808362	6.70217E+12	0.0210194	0.629461	2.9808362
518	5849.94	575134	0.101143	5/8/19 8:34	0.0242095	0.7249938	4.76084E+13	2.9834634	6.70217E+12	0.0253845	0.7601812	2.9834634
519	5844.18	575135	0.1003625	5/8/19 8:39	0.0242095	0.7249938	4.79315E+13	2.9604385	6.70217E+12	0.0187378	0.5611347	2.9604385
520	5844.99	575136	0.1007176	5/8/19 8:45	0.0242095	0.7249938	4.77691E+13	2.9709144	6.70217E+12	0.0201853	0.6044825	2.9709144
521	5856.45	575136	0.1009151	5/8/19 8:50	0.0242095	0.7249938	4.77691E+13	2.9767393	6.70217E+12	0.0212258	0.635642	2.9767393
522	5861.07	575136	0.1009947	5/8/19 8:55	0.0242095	0.7249938	4.77691E+13	2.9790876	6.70217E+12	0.0203371	0.6090284	2.9790876
523	5859.02	575136	0.1009594	5/8/19 9:00	0.0244939	0.7335107	4.77691E+13	2.9780456	6.70217E+12	0.0193291	0.5788421	2.9780456
524	5865.61	575136	0.1010729	5/8/19 9:05	0.0244939	0.7335107	4.77691E+13	2.9813952	6.70217E+12	0.0272511	0.8160796	2.9813952
525	5854.26	575136	0.1008773	5/8/19 9:10	0.0244939	0.7335107	4.77691E+13	2.9758262	6.70217E+12	0.0236817	0.709188	2.9758262
526	5831.3	575137	0.1018101	5/8/19 9:15	0.0244939	0.7335107	4.71458E+13	3.0031404	6.70217E+12	0.0214968	0.64376289	6.4376289
527	5839.16	575137	0.1019473	5/8/19 9:20	0.0244939	0.7335107	4.71458E+13	3.0071883	6.70217E+12	0.0214921	0.64364101	6.4364101
528	5843.2	575137	0.1020179	5/8/19 9:25	0.0244939	0.7335107	4.71458E+13	3.0092689	6.70217E+12	0.0275293	0.8244108	3.0092689
529	5841.15	575137	0.1019821	5/8/19 9:30	0.0244939	0.7335107	4.71458E+13	3.0082132	6.70217E+12	0.0429576	1.2864369	3.0082132
530	5849.05	575139	0.1011946	5/8/19 9:35	0.0244939	0.7335107	4.7577E+13	2.9849829	6.70217E+12	0.0232529	0.6963468	2.9849829
531	5857.36	575140	0.0999202	5/8/19 9:40	0.0244939	0.7335107	4.82522E+13	2.947394	6.70217E+12	0.0229391	0.6869496	2.947394
532	5857.91	575140	0.0999296	5/8/19 9:45	0.0244939	0.7335107	4.82522E+13	2.9476708	6.70217E+12	0.0235124	0.704118	2.9476708
533	5864.03	575140	0.100034	5/8/19 9:50	0.0244939	0.7335107	4.82522E+13	2.9507504	6.70217E+12	0.0259313	0.776556	2.9507504
534	5868.53	575142	0.0972217	5/8/19 9:55	0.0244939	0.7335107	4.96861E+13	2.8677931	6.70217E+12	0.0202099	0.6052191	2.8677931
535	5857.64	575143	0.0964425	5/8/19 10:00	0.0273545	0.8191761	4.99946E+13	2.8448083	6.70217E+12	0.018816	0.5634765	2.8448083
536	5866.7	575143	0.0965916	5/8/19 10:05	0.0273545	0.8191761	4.99946E+13	2.8492083	6.70217E+12	0.0166105	0.4974291	2.8492083
537	5863.82	575143	0.0965442	5/8/19 10:10	0.0273545	0.8191761	4.99946E+13	2.8478096	6.70217E+12	0.0189675	0.5680134	2.8478096
538	5866.01	575143	0.0965803	5/8/19 10:15	0.0273545	0.8191761	4.99946E+13	2.8488732	6.70217E+12	0.0207265	0.6206896	2.8488732
539	5864.99	575144	0.0934511	5/8/19 10:20	0.0273545	0.8191761	5.16596E+13	2.7565705	6.70217E+12	0.0230154	0.6892345	2.7565705
540	5879.4	575144	0.0936807	5/8/19 10:25	0.0273545	0.8191761	5.16596E+13	2.7633433	6.70217E+12	0.022665	0.6787412	2.7633433
541	5893.62	575144	0.0939073	5/8/19 10:30	0.0273545	0.8191761	5.16596E+13	2.7700267	6.70217E+12	0.026083	0.7810989	2.7700267
542	5896.01	575144	0.0939454	5/8/19 10:35	0.0273545	0.8191761	5.16596E+13	2.77115	6.70217E+12	0.0230839	0.6912859	2.77115
543	5888.01	575145	0.0946022	5/8/19 10:40	0.0273545	0.8191761	5.12313E+13	2.790525	6.70217E+12	0.0287548	0.8611104	2.790525
544	5881.26	575145	0.0944937	5/8/19 10:45	0.0273545	0.8191761	5.12313E+13	2.787326	6.70217E+12	0.0290496	0.8699387	2.787326
545	5890.78	575145	0.0946467	5/8/19 10:50	0.0273545	0.8191761	5.12313E+13	2.7918378	6.70217E+12	0.031648	0.9477521	2.7918378
546	5902.32	575145	0.0948321	5/8/19 10:55	0.0273545	0.8191761	5.12313E+13	2.797307	6.70217E+12	0.0386126	1.1563187	2.797307
547	5892.56	575146	0.0957691	5/8/19 11:00	0.0256602	0.7684375	5.06462E+13	2.8249464	6.70217E+12	0.1850845	5.5426638	5.5426638
548	5892.8	575146	0.095773	5/8/19 11:06	0.0256602	0.7684375	5.06462E+13	2.8250615	6.70217E+12	0.1223436	3.663783	3.663783
549	5886.97	575146	0.0956783	5/8/19 11:11	0.0256602	0.7684375	5.06462E+13	2.8222665	6.70217E+12	0.0289788	0.8678185	2.8222665
550	5886.09	575147	0.095016	5/8/19 11:16	0.0256602	0.7684375	5.09916E+13	2.8027303	6.70217E+12	0.0293671	0.8794468	2.8027303
551	5892.15	575147	0.0951138	5/8/19 11:21	0.0256602	0.7684375	5.09916E+13	2.8056159	6.70217E+12	0.0222423	0.6660827	2.8056159
552	5876.44	575148	0.0951515	5/8/19 11:26	0.0256602	0.7684375	5.08355E+13	2.8067268	6.70217E+12	0.0207227	0.6207578	2.8067268
553	5884.06	575148	0.0955244	5/8/19 11:31	0.0256602	0.7684375	5.07027E+13	2.8177282	6.70217E+12	0.0191584	0.5737302	2.8177282
554	5888.27	575149	0.0955928	5/8/19 11:36	0.0256602	0.7684375	5.07027E+13	2.8197442	6.70217E+12	0.0213724	0.6400321	2.8197442
555	5886.01	575149	0.0955561	5/8/19 11:41	0.0256602	0.7684375	5.07027E+13	2.818662	6.70217E+12	0.0222172	0.6653311	2.818662
556	5884.57	575150	0.0935906	5/8/19 11:46	0.0256602	0.7684375	5.17548E+13	2.7606856	6.70217E+12	0.0230647	0.6907109	2.7606856
557	5889.82	575150	0.0936741	5/8/19 11:51	0.0256602	0.7684375	5.17548E+13	2.7631486	6.70217E+12	0.0228225	0.6834578	2.7631486
558	5888.19	575151	0.0945307	5/8/19 11:56	0.0256602	0.7684375	5.12716E+13	2.7884168	6.70217E+12	0.0233477	0.6991858	2.7884168
559	5872.61	575151	0.0942806	5/8/19 12:01	0.026371	0.7897235	5.12716E+13	2.7810387	6.70217E+12	0.0224703	0.6729106	2.7810387
560	5867.29	575152	0.0946705	5/8/19 12:06	0.026371	0.7897235	5.10142E+13	2.7925413	6.70217E+12	0.0217427	0.6511214	2.7925413
561	5863.69	575152	0.0946125	5/8/19 12:11	0.026371	0.7897235	5.10142E+13	2.7908278	6.70217E+12	0.0206502	0.6184047	2.7908278
562	5866.61	575153	0.0947421	5/8/19 12:16	0.026371	0.7897235	5.09698E+13	2.7946505	6.70217E+12	0.0211696	0.633959	2.7946505

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
563	5868.73	575154	0.0943442	5/8/19 12:21	0.026371	0.7897235	5.12032E+13	2.7829139	6.70217E+12	0.0227271	0.6806009	2.7829139
564	5877.65	575154	0.0944876	5/8/19 12:26	0.026371	0.7897235	5.12032E+13	2.7871437	6.70217E+12	0.0262613	0.7864384	2.7871437
565	5886.52	575156	0.0934827	5/8/19 12:31	0.026371	0.7897235	5.18317E+13	2.7575042	6.70217E+12	0.0246938	0.739497	2.7575042
566	5883.25	575156	0.0934308	5/8/19 12:36	0.026371	0.7897235	5.18317E+13	2.7559724	6.70217E+12	0.0239477	0.7171538	2.7559724
567	5880.8	575156	0.0933919	5/8/19 12:41	0.026371	0.7897235	5.18317E+13	2.7548247	6.70217E+12	0.0215346	0.6448895	2.7548247
568	5886.84	575157	0.0931778	5/8/19 12:46	0.026371	0.7897235	5.20042E+13	2.7485095	6.70217E+12	0.0215175	0.6443774	2.7485095
569	5887.77	575157	0.0931925	5/8/19 12:51	0.026371	0.7897235	5.20042E+13	2.7489437	6.70217E+12	0.0210953	0.6317339	2.7489437
570	5886.14	575159	0.0936745	5/8/19 12:56	0.026371	0.7897235	5.17223E+13	2.7631598	6.70217E+12	0.0221968	0.6647202	2.7631598
571	5880.23	575159	0.0935804	5/8/19 13:01	0.0224056	0.670973	5.17223E+13	2.7603855	6.70217E+12	0.0220558	0.6604977	2.7603855
572	5884.79	575159	0.093653	5/8/19 13:06	0.0224056	0.670973	5.17223E+13	2.7625261	6.70217E+12	0.0232481	0.6962031	2.7625261
573	5887.12	575159	0.0936901	5/8/19 13:11	0.0224056	0.670973	5.17223E+13	2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
574	5882.83	575159	0.0936218	5/8/19 13:16	0.0224056	0.670973	5.17223E+13	2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
575	5887.05	575160	0.095298	5/8/19 13:21	0.0224056	0.670973	5.0849E+13	2.8110496	6.70217E+12	0.0210217	0.6295298	2.8110496
576	5885.01	575161	0.0954767	5/8/19 13:26	0.0224056	0.670973	5.07362E+13	2.8163217	6.70217E+12	0.0209618	0.627736	2.8163217
577	5877.03	575161	0.0953473	5/8/19 13:31	0.0224056	0.670973	5.07362E+13	2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
578	5864.5	575163	0.0928787	5/8/19 13:36	0.0224056	0.670973	5.19737E+13	2.7396868	6.70217E+12	0.0197032	0.5900452	2.7396868
579	5878.37	575163	0.0930984	5/8/19 13:41	0.0224056	0.670973	5.19737E+13	2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
580	5884.42	575163	0.0931942	5/8/19 13:46	0.0224056	0.670973	5.19737E+13	2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
581	5882.28	575163	0.0931603	5/8/19 13:51	0.0224056	0.670973	5.19737E+13	2.747993	6.70217E+12	0.0286405	0.8576875	2.747993
582	5884.83	575163	0.0932007	5/8/19 13:56	0.0224056	0.670973	5.19737E+13	2.7491843	6.70217E+12	0.0262751	0.7868517	2.7491843
583	5884.52	575164	0.0946934	5/8/19 14:01	0.0200678	0.6009637	5.11517E+13	2.793214	6.70217E+12	0.027166	0.8135311	2.793214
584	5879.67	575164	0.0946153	5/8/19 14:06	0.0200678	0.6009637	5.11517E+13	2.7909119	6.70217E+12	0.0243166	0.7282011	2.7909119
585	5877.49	575164	0.0945802	5/8/19 14:11	0.0200678	0.6009637	5.11517E+13	2.7898771	6.70217E+12	0.0208701	0.6249899	2.7898771
586	5887.28	575166	0.0950829	5/8/19 14:16	0.0200678	0.6009637	5.0966E+13	2.8047039	6.70217E+12	0.0218292	0.6537118	2.8047039
587	5884.05	575166	0.0950307	5/8/19 14:21	0.0200678	0.6009637	5.0966E+13	2.8031651	6.70217E+12	0.0217633	0.6517383	2.8031651
588	5885.12	575166	0.095048	5/8/19 14:26	0.0200678	0.6009637	5.0966E+13	2.8036749	6.70217E+12	0.0217781	0.6521815	2.8036749
589	5902.91	575167	0.0961455	5/8/19 14:31	0.0200678	0.6009637	5.05365E+13	2.836049	6.70217E+12	0.021451	0.6423859	2.836049
590	5902.72	575167	0.0961424	5/8/19 14:36	0.0200678	0.6009637	5.05365E+13	2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
591	5906.61	575167	0.0962058	5/8/19 14:41	0.0200678	0.6009637	5.05365E+13	2.8378267	6.70217E+12	0.0426523	1.2777294	2.8378267
592	5912.28	575167	0.0962981	5/8/19 14:46	0.0200678	0.6009637	5.05365E+13	2.8405508	6.70217E+12	0.1999116	5.986686	5.986686
593	5908.65	575170	0.095031	5/8/19 14:51	0.0200678	0.6009637	5.1179E+13	2.8031727	6.70217E+12	0.2670565	7.997452	7.997452
594	5900.02	575170	0.0948922	5/8/19 14:56	0.0200678	0.6009637	5.1179E+13	2.7990785	6.70217E+12	0.0299601	0.8927051	2.7990785
595	5884.23	575171	0.0950701	5/8/19 15:01	0.0170556	0.5107584	5.09465E+13	2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
596	5890.02	575171	0.0951636	5/8/19 15:06	0.0170556	0.5107584	5.09465E+13	2.8070857	6.70217E+12	0.0254303	0.7615527	2.8070857
597	5890.65	575171	0.0951738	5/8/19 15:11	0.0170556	0.5107584	5.09465E+13	2.8073859	6.70217E+12	0.0264722	0.7927541	2.8073859
598	5868.34	575171	0.0948133	5/8/19 15:16	0.0170556	0.5107584	5.09465E+13	2.7967533	6.70217E+12	0.0232906	0.6974758	2.7967533
599	5883.01	575172	0.0962041	5/8/19 15:21	0.0170556	0.5107584	5.03355E+13	2.837777	6.70217E+12	0.0222339	0.6655317	2.837777
600	5877.22	575172	0.0961094	5/8/19 15:26	0.0170556	0.5107584	5.03355E+13	2.8349841	6.70217E+12	0.021497	0.6437635	2.8349841
601	5882.35	575173	0.0955836	5/8/19 15:31	0.0170556	0.5107584	5.06566E+13	2.8194728	6.70217E+12	0.0233908	0.7004765	2.8194728
602	5895.23	575174	0.0960485	5/8/19 15:36	0.0170556	0.5107584	5.05218E+13	2.8331879	6.70217E+12	0.0260191	0.7791853	2.8331879
603	5891.02	575174	0.0959799	5/8/19 15:41	0.0170556	0.5107584	5.05218E+13	2.83311646	6.70217E+12	0.0204508	0.6124333	2.8311646
604	5895.3	575174	0.0960497	5/8/19 15:46	0.0170556	0.5107584	5.05218E+13	2.8332215	6.70217E+12	0.0203869	0.6105197	2.8332215
605	5898.69	575174	0.0961049	5/8/19 15:51	0.0170556	0.5107584	5.05218E+13	2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
606	5898.34	575175	0.0970802	5/8/19 15:56	0.0170556	0.5107584	5.00112E+13	2.863621	6.70217E+12	0.0209194	0.6264663	2.863621
607	5900.14	575176	0.0971661	5/8/19 16:01	0.0174326	0.5220483	4.99823E+13	2.8661537	6.70217E+12	0.0209977	0.6288111	2.8661537
608	5891.31	575176	0.0970207	5/8/19 16:06	0.0174326	0.5220483	4.99823E+13	2.8618643	6.70217E+12	0.0203367	0.6090164	2.8618643
609	5893.65	575176	0.0970592	5/8/19 16:11	0.0174326	0.5220483	4.99823E+13	2.863001	6.70217E+12	0.0213506	0.6393793	2.863001
610	5892.53	575177	0.0969298	5/8/19 16:16	0.0174326	0.5220483	5.00395E+13	2.8591849	6.70217E+12	0.0261533	0.7832042	2.8591849
611	5894.16	575177	0.0969567	5/8/19 16:21	0.0174326	0.5220483	5.00395E+13	2.8599758	6.70217E+12	0.0258626	0.7744987	2.8599758
612	5895.84	575178	0.097646	5/8/19 16:26	0.0174326	0.5220483	4.97004E+13	2.88031	6.70217E+12	0.0215949	0.6466953	2.88031
613	5896.89	575179	0.0980892	5/8/19 16:31	0.0174326	0.5220483	4.94846E+13	2.8933819	6.70217E+12	0.0198411	0.5941748	2.8933819

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
614	5902.19	575180	0.0983841	5/8/19 16:36	0.0174326	0.5220483	4.93807E+13	2.9020809	6.70217E+12	0.0207134	0.6202973	2.9020809
615	5905.9	575181	0.097534	5/8/19 16:41	0.0174326	0.5220483	4.98424E+13	2.8770052	6.70217E+12	0.0223016	0.6678586	2.8770052
616	5906.84	575181	0.0975495	5/8/19 16:46	0.0174326	0.5220483	4.98424E+13	2.8774631	6.70217E+12	0.0254538	0.7625265	2.8774631
617	5906.42	575181	0.0975095	5/8/19 16:51	0.0174326	0.5220483	4.98424E+13	2.8762842	6.70217E+12	0.025079	0.7510325	2.8762842
618	5903.02	575181	0.0974864	5/8/19 16:56	0.0174326	0.5220483	4.98424E+13	2.8756022	6.70217E+12	0.0246071	0.7369006	2.8756022
619	5894.63	575182	0.0989154	5/8/19 17:01	0.0174032	0.5211678	4.90525E+13	2.9177544	6.70217E+12	0.0226389	0.6779596	2.9177544
620	5898.06	575182	0.098973	5/8/19 17:06	0.0174032	0.5211678	4.90525E+13	2.9194522	6.70217E+12	0.0256642	0.7685572	2.9194522
621	5891.22	575182	0.0988582	5/8/19 17:11	0.0174032	0.5211678	4.90525E+13	2.9160665	6.70217E+12	0.0384273	1.1507695	2.9160665
622	5888.49	575182	0.0988124	5/8/19 17:16	0.0174032	0.5211678	4.90525E+13	2.9147151	6.70217E+12	0.0364449	1.0914033	2.9147151
623	5895.57	575183	0.0996828	5/8/19 17:21	0.0174032	0.5211678	4.86826E+13	2.9403898	6.70217E+12	0.0191003	0.5719903	2.9403898
624	5896.91	575183	0.0997054	5/8/19 17:26	0.0174032	0.5211678	4.86826E+13	2.9410582	6.70217E+12	0.0230176	0.6893004	2.9410582
625	5918.72	575183	0.1000742	5/8/19 17:31	0.0174032	0.5211678	4.86826E+13	2.9519358	6.70217E+12	0.0030289	0.0907055	2.9519358
626	5926.18	575183	0.1002003	5/8/19 17:36	0.0174032	0.5211678	4.86826E+13	2.9556564	6.70217E+12	0.0439309	1.315584	2.9556564
627	5934.97	575183	0.100349	5/8/19 17:41	0.0174032	0.5211678	4.86826E+13	2.9600404	6.70217E+12	0.0408583	1.2235699	2.9600404
628	5944.99	575185	0.100551	5/8/19 17:46	0.0174032	0.5211678	4.86669E+13	2.9659989	6.70217E+12	0.0170991	0.512061	2.9659989
629	5940.01	575185	0.1004667	5/8/19 17:51	0.0174032	0.5211678	4.86669E+13	2.9635144	6.70217E+12	0.0183967	0.5509198	2.9635144
630	5931.52	575186	0.1008871	5/8/19 17:56	0.0174032	0.5211678	4.83948E+13	2.9759139	6.70217E+12	0.0163528	0.4897119	2.9759139
631	5938.6	575188	0.0986457	5/8/19 18:01	0.0165475	0.4955425	4.95535E+13	2.9097985	6.70217E+12	0.0185884	0.5566606	2.9097985
632	5931.02	575189	0.0980181	5/8/19 18:06	0.0165475	0.4955425	4.98071E+13	2.8912849	6.70217E+12	0.0173413	0.5193141	2.8912849
633	5928.19	575189	0.0979713	5/8/19 18:12	0.0165475	0.4955425	4.98071E+13	2.8899053	6.70217E+12	0.0187899	0.5626949	2.8899053
634	5932.23	575189	0.0980381	5/8/19 18:17	0.0165475	0.4955425	4.98071E+13	2.8918748	6.70217E+12	0.0180684	0.5410884	2.8918748
635	5931.78	575189	0.0980306	5/8/19 18:22	0.0165475	0.4955425	4.98071E+13	2.8916554	6.70217E+12	0.0164812	0.493557	2.8916554
636	5964.15	575189	0.0983656	5/8/19 18:27	0.0165475	0.4955425	4.98071E+13	2.9074353	6.70217E+12	0.0180238	0.5397527	2.9074353
637	5899.89	575189	0.0975036	5/8/19 18:32	0.0165475	0.4955425	4.98071E+13	2.8761095	6.70217E+12	0.0168118	0.5034574	2.8761095
638	5931.45	575190	0.1008336	5/8/19 18:37	0.0165475	0.4955425	4.84199E+13	2.9743362	6.70217E+12	0.0122315	0.3662927	2.9743362
639	5929.97	575190	0.1008085	5/8/19 18:42	0.0165475	0.4955425	4.84199E+13	2.973594	6.70217E+12	0.0162317	0.4860853	2.973594
640	5923.2	575191	0.0994527	5/8/19 18:47	0.0165475	0.4955425	4.90239E+13	2.9336031	6.70217E+12	0.0090855	0.2720804	2.9336031
641	5934.99	575192	0.0992547	5/8/19 18:52	0.0165475	0.492195E+13	4.92195E+13	2.9277617	6.70217E+12	0.0122121	0.3657117	2.9277617
642	5940.66	575194	0.0989022	5/8/19 18:57	0.0165475	0.4955425	4.94421E+13	2.9173636	6.70217E+12	0.0091815	0.2749553	2.9173636
643	5948.18	575194	0.0990274	5/8/19 19:02	0.0158704	0.4752656	4.94421E+13	2.9210566	6.70217E+12	0.0137605	0.4120811	2.9210566
644	5964.98	575194	0.0993071	5/8/19 19:07	0.0158704	0.4752656	4.94421E+13	2.9293068	6.70217E+12	0.0152734	0.4573874	2.9293068
645	5960.1	575194	0.0992258	5/8/19 19:12	0.0158704	0.4752656	4.94421E+13	2.9269103	6.70217E+12	0.0109359	0.3274938	2.9269103
646	5946.01	575194	0.0989912	5/8/19 19:17	0.0158704	0.4752656	4.94421E+13	2.9199909	6.70217E+12	0.0150092	0.4494755	2.9199909
647	5937.16	575194	0.0988439	5/8/19 19:22	0.0158704	0.4752656	4.94421E+13	2.9156448	6.70217E+12	0.0154969	0.4640805	2.9156448
648	5955.08	575194	0.0991422	5/8/19 19:27	0.0158704	0.4752656	4.94421E+13	2.9244451	6.70217E+12	0.0152611	0.4570191	2.9244451
649	5957.98	575195	0.1010248	5/8/19 19:32	0.0158704	0.4752656	4.85444E+13	2.9799976	6.70217E+12	0.0228461	0.6841645	2.9799976
650	5962.91	575195	0.1011084	5/8/19 19:37	0.0158704	0.4752656	4.85444E+13	2.9824418	6.70217E+12	0.0165428	0.4954017	2.9824418
651	5956.59	575195	0.1010012	5/8/19 19:42	0.0158704	0.4752656	4.85444E+13	2.9792807	6.70217E+12	0.0163774	0.4904485	2.9792807
652	5957.7	575195	0.1010201	5/8/19 19:47	0.0158704	0.4752656	4.85444E+13	2.9798359	6.70217E+12	0.0147872	0.4428273	2.9798359
653	5969.98	575195	0.1012283	5/8/19 19:52	0.0158704	0.4752656	4.85444E+13	2.9859578	6.70217E+12	0.0161979	0.4850731	2.9859578
654	5987.65	575195	0.1015279	5/8/19 19:57	0.0158704	0.4752656	4.85444E+13	2.9948159	6.70217E+12	0.0140256	0.42002	2.9948159
655	6036.6	575195	0.1023579	5/8/19 20:02	0.013261	0.3971227	4.85444E+13	3.019299	6.70217E+12	0.0154454	0.4625382	3.019299
656	6037.49	575196	0.1050403	5/8/19 20:07	0.013261	0.3971227	4.73117E+13	3.0984226	6.70217E+12	0.0157078	0.4703963	3.0984226
657	6092.47	575196	0.1059968	5/8/19 20:12	0.013261	0.3971227	4.73117E+13	3.1266382	6.70217E+12	0.0215321	0.6448146	3.1266382
658	6052.38	575196	0.1052994	5/8/19 20:17	0.013261	0.3971227	4.73117E+13	3.1060641	6.70217E+12	0.018557	0.5557203	3.1060641
659	6053.32	575199	0.1035905	5/8/19 20:22	0.013261	0.3971227	4.80997E+13	3.0556586	6.70217E+12	0.0163585	0.4898825	3.0556586
660	6041.03	575200	0.1032464	5/8/19 20:27	0.013261	0.3971227	4.8162E+13	3.0455058	6.70217E+12	0.0188459	0.5643719	3.0455058
661	6030.66	575202	0.1032473	5/8/19 20:32	0.013261	0.3971227	4.80789E+13	3.0455341	6.70217E+12	0.0134602	0.4030881	3.0455341
662	6043.34	575204	0.1032455	5/8/19 20:37	0.013261	0.3971227	4.81808E+13	3.0454809	6.70217E+12	0.0164743	0.4933504	3.0454809
663	6042.19	575204	0.1032259	5/8/19 20:42	0.013261	0.3971227	4.81808E+13	3.0449014	6.70217E+12	0.0147002	0.440222	3.0449014
664	6049.96	575204	0.1033586	5/8/19 20:47	0.013261	0.3971227	4.81808E+13	3.048817	6.70217E+12	0.0148678	0.4452411	3.048817

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
665	6051.76	575205	0.1040715	5/8/19 20:52	0.013261	0.3971227	4.7865E+13	3.0698443	6.70217E+12	0.0130545	0.3909388	3.0698443
666	6054.77	575206	0.1045618	5/8/19 20:57	0.013261	0.3971227	4.76643E+13	3.084309	6.70217E+12	0.0122348	0.3663915	3.084309
667	6045.31	575206	0.1043985	5/8/19 21:02	0.0057558	0.172367	4.76643E+13	3.0794901	6.70217E+12	0.0113115	0.3387417	3.0794901
668	6042.99	575207	0.1043195	5/8/19 21:07	0.0057558	0.172367	4.7682E+13	3.0771614	6.70217E+12	0.0064092	0.1919342	3.0771614
669	6038.47	575207	0.1042415	5/8/19 21:12	0.0057558	0.172367	4.7682E+13	3.0748598	6.70217E+12	0.0050076	0.1499609	3.0748598
670	6046.62	575207	0.1043822	5/8/19 21:17	0.0057558	0.172367	4.7682E+13	3.0790099	6.70217E+12	-0.0026668	-0.0798618	3.0790099
671	6044.8	575207	0.1043508	5/8/19 21:22	0.0057558	0.172367	4.7682E+13	3.0780831	6.70217E+12	0.0105849	0.3169825	3.0780831
672	6048.33	575207	0.1044117	5/8/19 21:27	0.0057558	0.172367	4.7682E+13	3.0798806	6.70217E+12	0.0086089	0.2578079	3.0798806
673	6052.87	575208	0.1057954	5/8/19 21:32	0.0057558	0.172367	4.70937E+13	3.1206959	6.70217E+12	0.0018	0.053904	3.1206959
674	6056.61	575210	0.1055202	5/8/19 21:37	0.0057558	0.172367	4.72457E+13	3.1125773	6.70217E+12	-0.0021614	-0.0647267	3.1125773
675	6059.99	575212	0.0995054	5/8/19 21:42	0.0057558	0.172367	5.01295E+13	2.9351584	6.70217E+12	-0.0034416	-0.1030644	2.9351584
676	6049.69	575213	0.0988159	5/8/19 21:47	0.0057558	0.172367	5.03935E+13	2.9148188	6.70217E+12	-0.0015146	-0.0453572	2.9148188
677	6056.42	575214	0.0996142	5/8/19 21:52	0.0057558	0.172367	5.00453E+13	2.9383674	6.70217E+12	0.0023178	-0.0694104	2.9383674
678	6033.23	575215	0.0994308	5/8/19 21:57	0.0057558	0.172367	5.00453E+13	2.9329578	6.70217E+12	0.0029429	0.08813	2.9329578
679	6041.19	575214	0.0993637	5/8/19 22:02	-0.0039885	-0.1194423	5.00453E+13	2.9309783	6.70217E+12	0.0028846	0.0863842	2.9309783
680	6033.23	575215	0.0986577	5/8/19 22:07	-0.0039885	-0.1194423	5.0337E+13	2.9101535	6.70217E+12	-0.0021717	-0.0650352	2.9101535
681	6034.99	575215	0.0986865	5/8/19 22:12	-0.0039885	-0.1194423	5.0337E+13	2.9110025	6.70217E+12	0.0094236	0.2822054	2.9110025
682	6042.83	575216	0.0988187	5/8/19 22:17	-0.0039885	-0.1194423	5.0337E+13	2.9147841	6.70217E+12	-0.0117128	-0.3507593	2.9147841
683	6033.48	575216	0.0981874	5/8/19 22:22	-0.0039885	-0.1194423	5.05802E+13	2.8962791	6.70217E+12	-0.0071632	-0.214514	2.8962791
684	6028.01	575217	0.0985494	5/8/19 22:27	-0.0039885	-0.1194423	5.03487E+13	2.9069577	6.70217E+12	-0.0043047	-0.1289114	2.9069577
685	6027.43	575217	0.0985399	5/8/19 22:32	-0.0039885	-0.1194423	5.03487E+13	2.906678	6.70217E+12	-0.0026014	-0.0779033	2.906678
686	6029.94	575217	0.098581	5/8/19 22:37	-0.0039885	-0.1194423	5.03487E+13	2.9078884	6.70217E+12	-0.0017683	-0.0529547	2.9078884
687	6039.16	575219	0.0983331	5/8/19 22:42	-0.0039885	-0.1194423	5.05528E+13	2.9005763	6.70217E+12	-0.0018002	-0.05391	2.9005763
688	6039.06	575221	0.0975716	5/8/19 22:47	-0.0039885	-0.1194423	5.09465E+13	2.8781157	6.70217E+12	0.0035525	0.1063855	2.8781157
689	6035.97	575221	0.0975217	5/8/19 22:52	-0.0039885	-0.1194423	5.09465E+13	2.876643	6.70217E+12	-0.0028608	-0.0856714	2.876643
690	6041.91	575222	0.0971742	5/8/19 22:57	-0.0039885	-0.1194423	5.1179E+13	2.8663937	6.70217E+12	-0.0044334	-0.1327656	2.8663937
691	6066.64	575224	0.1014592	5/9/19 0:02	-0.0060127	-0.1800603	4.92181E+13	2.9927906	6.70217E+12	-0.0145142	-0.4346519	2.9927906
692	6072.36	575225	0.1021048	5/9/19 0:07	-0.0060127	-0.1800603	4.89531E+13	3.0118316	6.70217E+12	-0.0130235	-0.3900104	3.0118316
693	6068.07	575225	0.1020326	5/9/19 0:12	-0.0060127	-0.1800603	4.89531E+13	3.0097038	6.70217E+12	-0.0286682	-0.858517	3.0097038
694	6076.08	575225	0.1021673	5/9/19 0:17	-0.0060127	-0.1800603	4.89531E+13	3.0136767	6.70217E+12	-0.0231556	-0.693433	3.0136767
695	6077.05	575225	0.1021836	5/9/19 0:22	-0.0060127	-0.1800603	4.89531E+13	3.0141578	6.70217E+12	-0.0015472	-0.0463335	3.0141578
696	6056.56	575225	0.1018391	5/9/19 0:27	-0.0060127	-0.1800603	4.89531E+13	3.003995	6.70217E+12	-0.0012057	-0.0361067	3.003995
697	6053.34	575225	0.1017849	5/9/19 0:37	-0.0060127	-0.1800603	4.89531E+13	3.0023979	6.70217E+12	-0.0181456	-0.5434002	3.0023979
698	6047.02	575227	0.1035951	5/9/19 0:42	-0.0060127	-0.1800603	4.80475E+13	3.0557938	6.70217E+12	-0.0191353	-0.5730385	3.0557938
699	6061.52	575227	0.1038435	5/9/19 0:47	-0.0060127	-0.1800603	4.80475E+13	3.0631212	6.70217E+12	-0.0107209	-0.3210552	3.0631212
700	6050.01	575229	0.103384	5/9/19 0:52	-0.0060127	-0.1800603	4.81694E+13	3.0495651	6.70217E+12	0.0010001	0.0299497	3.0495651
701	6044.15	575229	0.1032838	5/9/19 0:57	-0.0060127	-0.1800603	4.81694E+13	3.0466114	6.70217E+12	-0.0040798	-0.1221764	3.0466114
702	6044.76	575229	0.1032943	5/9/19 1:02	-0.0084514	-0.2530913	4.81694E+13	3.0469188	6.70217E+12	-0.0033111	-0.0991564	3.0469188
703	6039.56	575229	0.1032054	5/9/19 1:07	-0.0084514	-0.2530913	4.81694E+13	3.0442977	6.70217E+12	-0.0031204	-0.0934456	3.0442977
704	6042.9	575231	0.1030119	5/9/19 1:12	-0.0084514	-0.2530913	4.82866E+13	3.0385906	6.70217E+12	-0.0012951	-0.0387839	3.0385906
705	6042.77	575232	0.1030817	5/9/19 1:17	-0.0084514	-0.2530913	4.82528E+13	3.0406489	6.70217E+12	-0.0005672	-0.0169857	3.0406489
706	6053.94	575233	0.1035545	5/9/19 1:22	-0.0084514	-0.2530913	4.82145E+13	3.0486951	6.70217E+12	-0.0121807	-0.3647714	3.0486951
707	6056.93	575233	0.1034055	5/9/19 1:27	-0.0084514	-0.2530913	4.82145E+13	3.0502008	6.70217E+12	-0.0149888	-0.4488646	3.0502008
708	6055.69	575233	0.1033843	5/9/19 1:32	-0.0084514	-0.2530913	4.82145E+13	3.0495763	6.70217E+12	-0.0147726	-0.4423901	3.0495763
709	6058.16	575233	0.1034265	5/9/19 1:37	-0.0084514	-0.2530913	4.82145E+13	3.0508202	6.70217E+12	-0.0157309	-0.471088	3.0508202
710	6059.3	575234	0.1038084	5/9/19 1:42	-0.0084514	-0.2530913	4.80461E+13	3.0620845	6.70217E+12	-0.0227758	-0.6820593	3.0620845
711	6061.34	575235	0.1031342	5/9/19 1:47	-0.0084514	-0.2530913	4.83765E+13	3.0421965	6.70217E+12	-0.0265233	-0.7942844	3.0421965
712	6073.89	575235	0.1033477	5/9/19 1:52	-0.0084514	-0.2530913	4.83765E+13	3.0484953	6.70217E+12	-0.0258125	-0.7729983	3.0484953
713	6070.6	575236	0.1036534	5/9/19 1:57	-0.0084514	-0.2530913	4.82077E+13	3.0575115	6.70217E+12	-0.0270166	-0.8090571	3.0575115
714	6070.34	575237	0.1039744	5/9/19 2:02	-0.009959	-0.2982389	4.80568E+13	3.0669809	6.70217E+12	-0.0241909	-0.7244368	3.0669809
715	6070.64	575238	0.1033994	5/9/19 2:07	-0.009959	-0.2982389	4.83264E+13	3.0500217	6.70217E+12	-0.0192845	-0.5775065	3.0500217

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
716	6066.1	575238	0.1033221	5/9/19 2:12	-0.009959	-0.2982389	4.83264E+13	3.0477407	6.70217E+12	-0.0253576	-0.7593756	3.0477407
717	6051.34	575238	0.1030707	5/9/19 2:17	-0.009959	-0.2982389	4.83264E+13	3.040325	6.70217E+12	-0.0277084	-0.8297742	3.040325
718	6061.78	575239	0.1040791	5/9/19 2:22	-0.009959	-0.2982389	4.79408E+13	3.0700698	6.70217E+12	-0.0259793	-0.7779934	3.0700698
719	6063.51	575239	0.1041088	5/9/19 2:27	-0.009959	-0.2982389	4.79408E+13	3.070946	6.70217E+12	-0.0268247	-0.8033103	3.070946
720	6069.07	575240	0.1042563	5/9/19 2:32	-0.009959	-0.2982389	4.79168E+13	3.0752977	6.70217E+12	-0.0240329	-0.7197052	3.0752977
721	6065.45	575242	0.1026794	5/9/19 2:37	-0.009959	-0.2982389	4.86237E+13	3.0287832	6.70217E+12	-0.0250565	-0.7503587	3.0287832
722	6056.78	575242	0.1025327	5/9/19 2:43	-0.009959	-0.2982389	4.86237E+13	3.0244539	6.70217E+12	-0.0183811	-0.5504527	3.0244539
723	6054.89	575242	0.1025007	5/9/19 2:48	-0.009959	-0.2982389	4.86237E+13	3.0235101	6.70217E+12	-0.0211004	-0.6318866	3.0235101
724	6052.82	575243	0.1032503	5/9/19 2:53	-0.009959	-0.2982389	4.82542E+13	3.0456209	6.70217E+12	-0.0280966	-0.8413995	3.0456209
725	6054.43	575243	0.1032777	5/9/19 2:58	-0.009959	-0.2982389	4.82542E+13	3.046431	6.70217E+12	-0.0255341	-0.7646612	3.046431
726	6054.32	575244	0.1033884	5/9/19 3:03	-0.0077595	-0.2323712	4.82017E+13	3.049695	6.70217E+12	-0.0035264	-0.1056039	3.049695
727	6068.65	575246	0.1006368	5/9/19 3:08	-0.0077595	-0.2323712	4.96368E+13	2.9685297	6.70217E+12	-0.0237767	-0.7120329	2.9685297
728	6068.33	575249	0.0992317	5/9/19 3:13	-0.0077595	-0.2323712	5.037E+13	2.9270841	6.70217E+12	-0.0227655	-0.6817508	2.9270841
729	6063.73	575250	0.0992085	5/9/19 3:18	-0.0077595	-0.2323712	5.03106E+13	2.9263997	6.70217E+12	-0.0241747	-0.7239517	2.9263997
730	6046.71	575250	0.09893	5/9/19 3:23	-0.0077595	-0.2323712	5.03106E+13	2.9181857	6.70217E+12	-0.0246606	-0.7385028	2.9181857
731	6046.74	575251	0.099455	5/9/19 3:28	-0.0077595	-0.2323712	5.00453E+13	2.933671	6.70217E+12	-0.0228565	-0.684476	2.933671
732	6058.26	575252	0.0992865	5/9/19 3:33	-0.0077595	-0.2323712	5.02257E+13	2.9286995	6.70217E+12	-0.0237663	-0.7117215	2.9286995
733	6064.08	575252	0.0993819	5/9/19 3:38	-0.0077595	-0.2323712	5.02257E+13	2.931513	6.70217E+12	-0.0229553	-0.6874347	2.931513
734	6061.98	575252	0.0993474	5/9/19 3:43	-0.0077595	-0.2323712	5.02257E+13	2.9304978	6.70217E+12	-0.0218107	-0.6531578	2.9304978
735	6061.61	575252	0.0993414	5/9/19 3:48	-0.0077595	-0.2323712	5.02257E+13	2.9303189	6.70217E+12	-0.0228651	-0.6847335	2.9303189
736	6055.44	575252	0.0992403	5/9/19 3:53	-0.0077595	-0.2323712	5.02257E+13	2.9273362	6.70217E+12	-0.0258057	-0.7727947	2.9273362
737	6048.17	575253	0.1013391	5/9/19 3:58	-0.0077595	-0.2323712	4.91264E+13	2.9892481	6.70217E+12	-0.0222549	-0.6664601	2.9892481
738	6036.54	575253	0.101443	5/9/19 4:03	-0.0064119	-0.192015	4.91264E+13	2.9835001	6.70217E+12	-0.0201096	-0.6022155	2.9835001
739	6032.68	575254	0.1009675	5/9/19 4:08	-0.0064119	-0.192015	4.9181E+13	2.9782848	6.70217E+12	-0.0220837	-0.6613332	2.9782848
740	6036.52	575254	0.1010317	5/9/19 4:13	-0.0064119	-0.192015	4.9181E+13	2.9801806	6.70217E+12	-0.0189611	-0.5678217	2.9801806
741	6048.03	575254	0.1012244	5/9/19 4:18	-0.0064119	-0.192015	4.9181E+13	2.985863	6.70217E+12	-0.0284786	-0.8528391	2.985863
742	6049.12	575254	0.1012426	5/9/19 4:23	-0.0064119	-0.192015	4.9181E+13	2.9864011	6.70217E+12	-0.0265276	-0.7944132	2.9864011
743	6047.1	575255	0.102742	5/9/19 4:28	-0.0064119	-0.192015	4.84471E+13	3.0306289	6.70217E+12	-0.0220302	-0.6597311	3.0306289
744	6040.01	575255	0.1026215	5/9/19 4:33	-0.0064119	-0.192015	4.84471E+13	3.0270756	6.70217E+12	-0.0249572	-0.7473849	3.0270756
745	6039.32	575256	0.1033913	5/9/19 4:38	-0.0064119	-0.192015	4.80809E+13	3.0497802	6.70217E+12	-0.0273476	-0.8189695	3.0497802
746	6037.47	575256	0.1033596	5/9/19 4:43	-0.0064119	-0.192015	4.80809E+13	3.0488459	6.70217E+12	-0.0285916	-0.8562231	3.0488459
747	6046.95	575256	0.1035219	5/9/19 4:48	-0.0064119	-0.192015	4.80809E+13	3.0536332	6.70217E+12	-0.0276954	-0.8293849	3.0536332
748	6051.57	575256	0.103601	5/9/19 4:53	-0.0064119	-0.192015	4.80809E+13	3.0559662	6.70217E+12	-0.0189461	-0.5673725	3.0559662
749	6052.41	575257	0.1025409	5/9/19 4:58	-0.0064119	-0.192015	4.85847E+13	3.0246966	6.70217E+12	-0.0213883	-0.6405083	3.0246966
750	6058.73	575257	0.102648	5/9/19 5:03	-0.001004	-0.0300665	4.85847E+13	3.027855	6.70217E+12	-0.0284985	-0.8534351	3.027855
751	6054.8	575258	0.1018989	5/9/19 5:08	-0.001004	-0.0300665	4.89101E+13	3.0057607	6.70217E+12	-0.0254371	-0.7617564	3.0057607
752	6051.38	575258	0.1018414	5/9/19 5:13	-0.001004	-0.0300665	4.89101E+13	3.0040629	6.70217E+12	-0.0222254	-0.6655766	3.0040629
753	6048.3	575258	0.1017896	5/9/19 5:18	-0.001004	-0.0300665	4.89101E+13	3.0025339	6.70217E+12	-0.0245437	-0.735002	3.0025339
754	6051.14	575258	0.1018373	5/9/19 5:23	-0.001004	-0.0300665	4.89101E+13	3.0039438	6.70217E+12	-0.0272051	-0.8147021	3.0039438
755	6057.19	575258	0.1019392	5/9/19 5:28	-0.001004	-0.0300665	4.89101E+13	3.0069471	6.70217E+12	-0.026005	-0.7787631	3.0069471
756	6059.15	575259	0.1040181	5/9/19 5:33	-0.001004	-0.0300665	4.79481E+13	3.0682693	6.70217E+12	-0.0148258	-0.4439833	3.0682693
757	6061.72	575260	0.1037848	5/9/19 5:38	-0.001004	-0.0300665	4.80762E+13	3.0613901	6.70217E+12	-0.0244808	-0.7331184	3.0613901
758	6057.72	575260	0.1037164	5/9/19 5:43	-0.001004	-0.0300665	4.80762E+13	3.05937	6.70217E+12	-0.0243887	-0.7303603	3.05937
759	6057.7	575260	0.103716	5/9/19 5:48	-0.001004	-0.0300665	4.80762E+13	3.0593599	6.70217E+12	-0.0198852	-0.5954955	3.0593599
760	6047.35	575260	0.1035388	5/9/19 5:53	-0.001004	-0.0300665	4.80762E+13	3.0541327	6.70217E+12	-0.0198875	-0.5955643	3.0541327
761	6044.98	575261	0.1039808	5/9/19 5:58	-0.001004	-0.0300665	4.78531E+13	3.0671699	6.70217E+12	-0.0198792	-0.5953158	3.0671699
762	6040.28	575262	0.1043375	5/9/19 6:03	0.0099891	0.2991402	4.76524E+13	3.077692	6.70217E+12	-0.0173633	-0.519973	3.077692
763	6034.01	575263	0.1041918	5/9/19 6:08	0.0099891	0.2991402	4.76695E+13	3.0733946	6.70217E+12	-0.018275	-0.5472753	3.0733946
764	6034.26	575263	0.1041961	5/9/19 6:13	0.0099891	0.2991402	4.76695E+13	3.0735219	6.70217E+12	-0.0079803	-0.2389834	3.0735219
765	6037.47	575263	0.1042516	5/9/19 6:18	0.0099891	0.2991402	4.76695E+13	3.0751569	6.70217E+12	-0.0028126	-0.084228	3.0751569
766	6035.61	575264	0.1036859	5/9/19 6:23	0.0099891	0.2991402	4.79148E+13	3.0584702	6.70217E+12	-0.0009188	-0.027515	3.0584702

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
767	6032.26	575264	0.1036283	5/9/19 6:28	0.0098991	0.2991402	4.79148E+13	3.0567726	6.70217E+12	-0.0017763	-0.0531943	3.0567726
768	6035.08	575266	0.1012996	5/9/19 6:33	0.0098991	0.2991402	4.90392E+13	2.988081	6.70217E+12	-0.0029613	-0.0886811	2.988081
769	6038.27	575266	0.1013531	5/9/19 6:33	0.0098991	0.2991402	4.90392E+13	2.9896604	6.70217E+12	-0.0017698	-0.0529996	2.9896604
770	6038.35	575267	0.1004336	5/9/19 6:48	0.0098991	0.2991402	4.94889E+13	2.9625364	6.70217E+12	-0.0040978	-0.1227155	2.9625364
771	6041.06	575267	0.1004787	5/9/19 6:48	0.0098991	0.2991402	4.94889E+13	2.963866	6.70217E+12	-0.0041121	-0.1231437	2.963866
772	6032.6	575269	0.1003466	5/9/19 6:53	0.0098991	0.2991402	4.94846E+13	2.9599697	6.70217E+12	-0.0017941	-0.0537273	2.9599697
773	6038.62	575269	0.1004467	5/9/19 6:58	0.0098991	0.2991402	4.94846E+13	2.9629235	6.70217E+12	-0.0169009	-0.5061256	2.9629235
774	6033.18	575269	0.1001899	5/9/19 7:03	0.015734	0.4711809	4.94846E+13	2.9553477	6.70217E+12	-0.0127165	-0.3808168	2.9553477
775	6018.06	575270	0.100393	5/9/19 7:08	0.015734	0.4711809	4.93426E+13	2.9613379	6.70217E+12	-0.0057831	-0.1731846	2.9613379
776	6028.56	575270	0.1005681	5/9/19 7:13	0.015734	0.4711809	4.93426E+13	2.9665047	6.70217E+12	-0.0011814	-0.035379	2.9665047
777	6023.05	575271	0.1000255	5/9/19 7:18	0.015734	0.4711809	4.95649E+13	2.9505	6.70217E+12	-0.0018878	-0.0565333	2.9505
778	6002.6	575271	0.0996859	5/9/19 7:23	0.015734	0.4711809	4.95649E+13	2.9404822	6.70217E+12	-0.0019315	-0.057842	2.9404822
779	6004.55	575271	0.0997183	5/9/19 7:28	0.015734	0.4711809	4.95649E+13	2.9414374	6.70217E+12	-0.0032781	-0.0981682	2.9414374
780	6023.65	575271	0.1000355	5/9/19 7:33	0.015734	0.4711809	4.95649E+13	2.9507939	6.70217E+12	-0.0044118	-0.1321187	2.9507939
781	6022.52	575272	0.1006869	5/9/19 7:38	0.015734	0.4711809	4.9235E+13	2.9700094	6.70217E+12	-0.0183056	-0.5481917	2.9700094
782	6016.76	575272	0.1005906	5/9/19 7:43	0.015734	0.4711809	4.9235E+13	2.9671688	6.70217E+12	-0.004465	-0.1337119	2.9671688
783	6007.87	575272	0.100442	5/9/19 7:48	0.015734	0.4711809	4.9235E+13	2.9627847	6.70217E+12	-0.0011594	-0.0347202	2.9627847
784	5998.51	575272	0.1002855	5/9/19 7:53	0.015734	0.4711809	4.9235E+13	2.9581688	6.70217E+12	-0.0019525	-0.0584709	2.9581688
785	6004.67	575273	0.101848	5/9/19 7:58	0.015734	0.4711809	4.85294E+13	3.0042572	6.70217E+12	-0.016446	-0.4925029	3.0042572
786	5986.82	575273	0.1015452	5/9/19 8:03	0.0212738	0.6370794	4.85294E+13	2.9953265	6.70217E+12	-0.0226577	-0.6785226	2.9953265
787	5966.01	575273	0.1011922	5/9/19 8:08	0.0212738	0.6370794	4.85294E+13	2.9849149	6.70217E+12	-0.0040549	-0.1214307	2.9849149
788	5975.72	575273	0.1013569	5/9/19 8:13	0.0212738	0.6370794	4.85294E+13	2.989773	6.70217E+12	0.0088876	0.266154	2.989773
789	5974.19	575273	0.101331	5/9/19 8:18	0.0212738	0.6370794	4.85294E+13	2.9890075	6.70217E+12	0.0059397	0.1778742	2.9890075
790	5989.16	575275	0.1021458	5/9/19 8:23	0.0212738	0.6370794	4.8263E+13	3.0130416	6.70217E+12	0.005809	0.1739602	3.0130416
791	5989.1	575275	0.1021448	5/9/19 8:28	0.0212738	0.6370794	4.8263E+13	3.0130114	6.70217E+12	0.0001868	0.005594	3.0130114
792	5990.38	575275	0.1021666	5/9/19 8:33	0.0212738	0.6370794	4.8263E+13	3.0136553	6.70217E+12	0.0010001	0.0299497	3.0136553
793	5999.35	575275	0.1023196	5/9/19 8:38	0.0212738	0.6370794	4.8263E+13	3.018168	6.70217E+12	-0.0026113	-0.0781997	3.018168
794	6009.99	575276	0.1040749	5/9/19 8:43	0.0212738	0.6370794	4.75331E+13	3.0699468	6.70217E+12	0.0003791	0.0113528	3.0699468
795	6015.23	575276	0.1041657	5/9/19 8:48	0.0212738	0.6370794	4.75331E+13	3.0726234	6.70217E+12	0.0045541	0.1363801	3.0726234
796	6006.59	575276	0.1040161	5/9/19 8:53	0.0212738	0.6370794	4.75331E+13	3.0682101	6.70217E+12	0.0020439	0.061208	3.0682101
797	6012.06	575276	0.1041108	5/9/19 8:58	0.0212738	0.6370794	4.75331E+13	3.0710042	6.70217E+12	0.0057903	0.1734002	3.0710042
798	5997.24	575276	0.1038541	5/9/19 9:03	0.021087	0.6314854	4.75331E+13	3.063434	6.70217E+12	0.0154138	0.4615919	3.063434
799	6009.31	575277	0.1048522	5/9/19 9:08	0.021087	0.6314854	4.71754E+13	3.0928732	6.70217E+12	0.007881	0.2360097	3.0928732
800	6014.99	575277	0.1049513	5/9/19 9:13	0.021087	0.6314854	4.71754E+13	3.0957966	6.70217E+12	0.0015859	0.0474924	3.0957966
801	6015.14	575277	0.1049539	5/9/19 9:18	0.021087	0.6314854	4.71754E+13	3.0958738	6.70217E+12	0.010437	0.330722	3.0958738
802	6010.98	575277	0.1048813	5/9/19 9:23	0.021087	0.6314854	4.71754E+13	3.0937327	6.70217E+12	0.0082541	0.2471828	3.0937327
803	6015.8	575279	0.1061867	5/9/19 9:28	0.021087	0.6314854	4.66328E+13	3.13224	6.70217E+12	0.0098213	0.2941152	3.13224
804	6008.98	575281	0.1036694	5/9/19 9:33	0.021087	0.6314854	4.7711E+13	3.0579847	6.70217E+12	0.0137284	0.4111198	3.0579847
805	6005.02	575281	0.1036011	5/9/19 9:38	0.021087	0.6314854	4.7711E+13	3.0559695	6.70217E+12	0.0148862	0.4457921	3.0559695
806	5992.86	575281	0.1033913	5/9/19 9:43	0.021087	0.6314854	4.7711E+13	3.0497812	6.70217E+12	0.019156	0.5736583	3.0497812
807	6001.7	575281	0.1035438	5/9/19 9:48	0.021087	0.6314854	4.7711E+13	3.0542799	6.70217E+12	0.0155476	0.4655988	3.0542799
808	5996.77	575281	0.1034587	5/9/19 9:53	0.021087	0.6314854	4.7711E+13	3.051771	6.70217E+12	0.0127646	0.3822572	3.051771
809	5997.26	575281	0.1034672	5/9/19 9:58	0.021087	0.6314854	4.7711E+13	3.0520204	6.70217E+12	0.01036	0.3102475	3.0520204
810	5995.19	575281	0.1034315	5/9/19 10:03	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	-0.0001443	-0.0043213	3.050967
811	5995.19	575281	0.1034315	5/9/19 10:08	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	0.0134747	0.4035223	3.050967
812	5978.15	575281	0.1031375	5/9/19 10:13	0.0217322	0.6508069	4.7711E+13	3.0422953	6.70217E+12	0.0153319	0.4591393	3.0422953
813	5989.44	575281	0.1033323	5/9/19 10:18	0.0217322	0.6508069	4.7711E+13	3.0480408	6.70217E+12	0.016155	0.4837884	3.0480408
814	6001.74	575282	0.1070813	5/9/19 10:23	0.0217322	0.6508069	4.61352E+13	3.158626	6.70217E+12	0.0174376	0.522198	3.158626
815	6010.06	575282	0.1072297	5/9/19 10:28	0.0217322	0.6508069	4.61352E+13	3.1630047	6.70217E+12	0.0234385	0.7019049	3.1630047
816	6009.71	575283	0.1079065	5/9/19 10:33	0.0217322	0.6508069	4.58431E+13	3.1829698	6.70217E+12	0.0203173	0.6084354	3.1829698
817	5995.73	575283	0.1076555	5/9/19 10:38	0.0217322	0.6508069	4.58431E+13	3.1755655	6.70217E+12	0.019624	0.5876734	3.1755655

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
818	6000.73	575284	0.1065399	5/9/19 10:43	0.0217322	0.6508069	4.63618E+13	3.142657	6.70217E+12	0.0143614	0.4300761	3.142657
819	6007.62	575284	0.1066622	5/9/19 10:48	0.0217322	0.6508069	4.63618E+13	3.1462654	6.70217E+12	0.0184275	0.5518422	3.1462654
820	6006.48	575284	0.106642	5/9/19 10:53	0.0217322	0.6508069	4.63618E+13	3.1456683	6.70217E+12	0.0226632	0.6786873	3.1456683
821	5999.23	575284	0.1065133	5/9/19 10:58	0.0217322	0.6508069	4.63618E+13	3.1418714	6.70217E+12	0.2007318	6.0112483	6.0112483
822	6004.02	575284	0.1065983	5/9/19 11:03	0.0217961	0.6527205	4.63618E+13	3.14438	6.70217E+12	0.0307427	0.9206414	3.14438
823	6000.99	575284	0.1065445	5/9/19 11:08	0.0217961	0.6527205	4.63618E+13	3.1427931	6.70217E+12	0.0293874	0.8800547	3.1427931
824	6003.38	575284	0.1065869	5/9/19 11:13	0.0217961	0.6527205	4.63618E+13	3.1440448	6.70217E+12	0.0349274	1.0459592	3.1440448
825	6014.88	575284	0.1067911	5/9/19 11:18	0.0217961	0.6527205	4.63618E+13	3.1500675	6.70217E+12	0.0260766	0.7809072	3.1500675
826	6026.81	575284	0.1070029	5/9/19 11:24	0.0217961	0.6527205	4.63618E+13	3.1563154	6.70217E+12	0.0118225	0.3540445	3.1563154

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Ziyi Koh <ziyi.koh@sbibits.com>, Jonathan Tanemori
<jonathan.tanemori@sbibits.com>, Jerry Chan <jerry.chan@sbibits.com>

Cc: Jon Cohen <jon.cohen@lancium.com>, David Henson <david.henson@lancium.com>, Raymond Cline <recline@lancium.com>, Eric Kutscha <eric.kutscha@lancium.com>, Prashant Gupta <prashant.gupta@lancium.com>

Subject: Lancium / SBI Update - Sept 27th

Date: Thu, 27 Sep 2018 16:11:42 -0500

Importance: Normal

Attachments: EDFR-Lancium_Hereford_Terms_Summary_DRAFT_20180926.docx;
Acciona_2018SEP19_Site_Visit.pdf; ServiceNow_Location_Entry.png;
ServiceNow_Device_Entry.png; Tier44_Power_Management_Dashboard.png

SBI Agenda for Call / Sept 27th

Deal Status

Invenergy / McAdoo

- Special T&D Tariff
 - o Lowest T&D level appears to be around ~\$3 - \$4/MWh
 - o This tariff level wouldn't allow us to achieve <\$25/MWh pricing and give Invenergy a material price uplift at McAdoo
- Self Generation Structure now preferred path
 - o Invenergy has recruited more team members to structure transaction

Acciona / Dempsey Ridge

- Legal confirmation that no other approvals required except FERC exemption
- Successful site visit last week (See "Acciona 2018SEP19 Site Visit")
- Follow up technical visit mid October

EDF / Hereford I

- Nearly finalized term sheet (See "EDFR-Lancium Hereford Terms Summary DRAFT 20180926" for latest turn)
- Very adverse pricing environment which should allow Lancium's electricity cost to be to be below \$20/MWh

NextEra / Blue Summit

- Term sheets exchanged and awaiting NEE feedback

Lincoln Clean Energy / Orsted

- Orsted (Danish national utility) recently agreed to purchase LCE
- LCE now re-engaged with Lancium for data centers at wind operations in TX
- Asked us to review their largest development project (Tahoka - 900MW multistage wind farm!)

Build and Operational Update

Box Build

- Delivered on Sept 24th
- Energized and operational
- Video files are in the SBI due diligence drive at: SBI/Update Videos - Sept 27
- JV Driver team and outside engineering convening in Houston next week
- Finalize design specs on next 5MW for delivery at end of Oct

Thomas Road / Ramping Testing

Bearbox v Lancium Trial Exhibit TX176
--

- 2.5MW Stage 1 complete
- NOC and offices now nearly complete
- Ramping successful for full 120 miners in under 5 min up and down (<2 min down and <4 min up)
- Tier44 and ServiceNow systems now functional and running (See "ServiceNow" & "Tier44" pictures attached)

Site Visit

- We are ready for week of Oct 15th

Patent Filings

- Four new filings in Sept:
 - o 18-865 Systems and Methods for Dynamic Power Routing with Behind-the-Meter Energy Storage
 - o 18-872 Providing Computational Resource Availability Based on Power-Generation Economics
 - o 18-873 System of Critical Datacenters and Behind-the-Meter Flexible Datacenters
 - o 18-1113 Methods and Systems for Distributed Power Control

Other Items:

Update on Tariff Considerations

--

(917) 833-2720

BUSINESS CONFIDENTIAL AND PROPRIETARY**EDFR DRAFT 09/19/2018**

SUMMARY OF TERMS:
EDFR-Lancium Hereford Behind-the-Meter Energy Sale

The following is a summary statement of the principal terms and conditions relating to a potential transaction. It is not a commitment or binding offer to enter into any agreement and is not a comprehensive statement of all of the terms and conditions of the proposed transaction.

1. Buyer	Lancium LLC entity [NTD: Specific entity and relationship to Lancium to be defined.]
2. Wind Seller	EDF Renewables Asset Management on behalf of the Hereford I Wind Project LLC (" <u>Hereford</u> ") via Deaf Smith Electric Cooperative (" <u>Coop</u> ")
3. Wind Project	Hereford I Wind project, a 200 MW operating wind electric generating facility located in Deaf Smith County, TX owned by EDF Renewables and Blackrock, Inc.
4. Server Facility	<p>A distributed data center facility to be constructed and operated by Buyer. The Server Facility will require a minimum of [X] MW of electric power ("<u>Auxiliary Power</u>"¹) and a maximum of [Y] MW ("<u>Maximum Power</u>").</p> <p>Server Facility will ramp up and down between Auxiliary Power and Maximum Power in response to available output from Wind Project.²</p> <p>Auxiliary Power will be the power required to power critical networking and control systems.</p> <p>If Auxiliary Power exceeds the MW output available from Wind Project at any point in time, Buyer will purchase that excess from Coop as defined in "19. Other Agreements" below.³</p>
5. Wind PPA	<p>Buyer and Wind Seller will enter into back to back power purchase agreements with Coop (further described in other agreements below).</p> <p>Wind Seller will sell and deliver to Buyer via Coop, and Buyer will purchase and accept from Wind Seller, via Coop all of the net electric energy generated by the first [Y] MW slice of Wind Project generating capacity ("<u>Generation Slice</u>") and delivered to the POI defined below ("<u>Wind Energy</u>"), but excluding all associated environmental credits, including all renewable energy credits, benefits, offsets, and allowances generated by the Wind Project, as well as any investment or production tax credits or similar government incentives.</p> <p>The Generation Slice MW amount will be equal to the Maximum Power MW amount, which will be the same as the Server Facility nameplate MW.⁴</p> <p>The Buyer will purchase and accept all Wind Energy produced by the lower</p>

¹ NTD: Auxiliary power assumed to be approximately 5% of Maximum Power. Specific MW level to be discussed and detailed.

² NTD: Server Facility ramp rate and MW increments to be discussed, recognizing ramping down will be faster than ramping up.

³ NTD: Buyer to confirm that Auxiliary Power will be drawn from Hereford when available

⁴ NTD: Such MW amount will vary between Implementation and Commercial phases as detailed below.

Bearbox v Lancium
Trial Exhibit
TX177

LANCIUM00014630

BUSINESS CONFIDENTIAL AND PROPRIETARY

	of as-available Wind Project MW output and the Generation Slice MW output over any measurement period, subject to the provisions below in “12. Curtailments”. ⁵
6. Conditions Precedent	<p>Seller: Legal and Senior management review and approval of the terms and conditions and Seller’s Board Approval.</p> <p>Buyer: Buyer’s Board or Risk Committee approval and confirmation that Buyer has the right from Deaf Smith Electric Coop and Golden Spread Electric Coop (if applicable) to pursue this energy purchase contract.⁶</p>
7. Term	<p>Implementation Phase for a Generation Slice of [5] MW will have an initial term of [1] year.</p> <p>Commercial Phase for a Generation Slice of [45] will have an initial term of [2] years, commencing at conclusion of Implementation Phase.⁷</p> <p>Buyer and Seller will have option to extend an additional two years if mutually agreed.</p>
8. Base Price	The real-time settlement price per MWh received by Wind Seller for power sold at the Wind Project’s ERCOT node.
9. Contract Price	<p>The <u>Base Price</u>, plus an adder of \$[10.50] per MWh (the “<u>Adder</u>”).</p> <p>The Adder to be paid to Wind Seller will be reduced by 50% of the aggregate administrative fee charged by Coop to Buyer</p>
10. Interconnection	<p>Buyer will be responsible for all costs and risks associated with the development, construction, completion and operation of the Server Facility and its interconnection to the Wind Project. Such costs will include the installation of a power circuit breaker or similar equipment at the main collector substation of the Wind Project to be specified in the Wind PPA (the “<u>POI</u>”), as well as a power meter and the Main Power Isolation Equipment further described below.</p> <p>Wind Seller will have the right to inspect installation and interconnection of the Server Facility and all related equipment, including the Isolation Equipment. Wind Seller will likewise have approval rights for contractor(s) and plans selected by Buyer prior to commencement of any work on Interconnection.⁸</p> <p>To the extent interconnection of the Server Facility results in a loss of generation from the Wind Project, Buyer shall reimburse Seller for the</p>

⁵ NTD: Definite Agreement may include consideration of “over powering” options for Server Facility and associated physical and financial parameters, to be discussed.

⁶ NTD: Seller’s final participation in this deal is very likely subject to review and approval by the Hereford Project Tax Equity Providers and potentially other equity and hedge parties. Clarification of the roles of Deaf Smith Electric Coop and Golden Spread Electric Coop will also be required.

⁷ NTD: Parties to discuss conditions required to move from Implementation to Commercial Phase.

⁸ NTD: Buyer wishes for Seller to pick contractor(s) based on experience and relationships.

BUSINESS CONFIDENTIAL AND PROPRIETARY

	<p>arising lost revenue, computed as the expected generation times the Base Price during the outage period, up to a maximum equal to the Credit Support as defined below. Interconnection of the Server Facility may require all or a portion of the Wind Project to be taken offline for a period not to exceed [●] hours and at a date and time selected by Wind Seller.</p>
11. Isolation	<p>Buyer will install a breaker switch and/or such other equipment as Wind Seller may require on the electric distribution line running from the POI to the Server Facility as may be necessary to allow Wind Seller to isolate the Server Facility from the circuit of which it is part (the “<u>Main Isolation Equipment</u>”).</p> <p>The Wind PPA will give Wind Seller complete control of the operation of the Main Isolation Equipment and the portion of the distribution line running from the POI to the Main Isolation Equipment.⁹</p>
12. Curtailments	<p>Wind Seller will have the right to curtail delivery of Energy to Buyer in its discretion, through operation of the Main Isolation Equipment or otherwise, to avoid potential injury to individuals or to property. In no case will non-delivery of Wind Energy give rise to any further obligation to Buyer.</p> <p>Buyer will have the right to curtail Wind Energy delivered pursuant to the Wind PPA, (1) for safety purposes (2) if the Base Price plus the Adder is greater than [\$75.00 per MWh on an hour ahead basis] and (3) for a period of twenty-fours each calendar quarter to perform maintenance on the Server Facility. In no case will non-acceptance of Wind Energy give rise to any further obligation to Buyer.¹⁰</p>
13. Permitting	<p>Buyer will be responsible for obtaining all permits at Buyer’s time, risk and expense necessary for the construction, operation and maintenance of the Server Facility and related equipment in accordance with good utility practice. Buyer will similarly be responsible for obtaining permits necessary for the purchase of wind energy from Wind Seller. Wind Seller will provide assistance to Buyer in obtaining such permits, upon Buyer’s reasonable request and at Buyer’s expense. Permits to be obtained by Buyer will be listed in the Wind PPA and Buyer will provide periodic reports to Wind Seller on progress toward obtaining them.</p> <p>For the avoidance of doubt, Wind Seller will not have the authority to require Lancium to obtain wildlife or similar permits that are not required or recommended by any governmental authority.</p>
14. Credit Support	<p>To secure its obligations under the Wind PPA, Buyer will establish credit support in the form of a Letter of Credit, Cash Collateral, or other Acceptable form as agreed by Seller. Buyer credit support shall be in the amount of 3 months of Adder on the Maximum Power amount for each Phase.¹¹</p>

⁹ NTD: Wind Seller rights and triggers for isolating server facility to be fully defined in a Definitive Agreement.

¹⁰ NTD: Safety purposes and maintenance non-acceptance to be further discussed. Parties also to discuss time frame for providing curtailment directives and also ramp up/ramp down directives.

¹¹ NTD: Specific credit \$ amounts to be computed based on final details of Generation Slice and Adder.

BUSINESS CONFIDENTIAL AND PROPRIETARY

15. Cooperation	The parties will agree to cooperate and exchange information reasonably necessary to permit, construct, interconnect and operate the Server Facility.
16. Title and Risk of Loss	[Title and risk of loss to the Energy will pass from Wind Seller to Buyer at the locations of the Main Isolation Equipment.] ¹²
17. Operating Procedures	<p>The Wind PPA will set forth key points of contact for Wind Seller and Buyer to coordinate the daily administration of the Wind PPA. Wind Seller will provide [hourly] forecasting of available Wind Energy to Buyer or such other incremental forecasting as may be necessary for the safe operation of the Server Facility.¹³</p> <p>Buyer maintenance personnel will have access to the restroom facilities in the Wind Project's O&M building when on site, as well as any open conference room facilities as they may be available.</p> <p>At Buyer's cost, Wind Seller will provide Buyer with access to necessary communications equipment via [a fiber connection] from the Server Facility to the Wind Project's O&M building or otherwise.</p> <p>Operating protocol between Wind Seller and Wind Buyer shall form an appendix to the Wind PPA. Operating protocol will specify Scheduling obligations.</p>
18. Remedies; Mitigation	In the event of a dispute relating to the Wind PPA, Wind Seller and Buyer will nominate executive employees following formal notice of dispute from either party for meetings and in-person discussions to take place over two weeks. In the event such dispute is not resolved at the end of two weeks, the parties will elect a neutral third-party arbitrator to resolve their dispute following submission of written arguments by both parties. ¹⁴
19. Other Agreements	<p>To facilitate the Wind PPA, Wind Seller, Coop and Buyer will enter into simultaneous "back-to-back" power purchase agreements for the sale and purchase of Wind Energy to be delivered by the Wind Seller to the POI (the "<u>PPAs</u>"). Terms of the PPAs will be separately negotiated between the Buyer and Coop. Buyer will work with Coop to include Golden Spread in the PPA between Buyer and Coop, if and as required.¹⁵</p> <p>Buyer and Coop will enter into a separate power purchase agreement for the sale and purchase of electric energy as may be necessary for the continuous operation of heating and air conditioning equipment within the Server Facility to the extent Wind Energy is not available to support such equipment at any time. This separate electric energy will be procured by Coop and in turn delivered to Buyer.</p> <p>Buyer will enter into a real property lease pursuant to which the owner(s) of land adjacent to the Wind Project's substation will lease to Buyer the right</p>

¹² NTD: To be discussed in context of Coop role in transaction¹³ NTD: Forecasting obligations to be discussed¹⁴ NTD: Dispute resolution escalation approach to be discussed¹⁵ NTD: Specific points of negotiation and contracts required that may be separate from the Wind Seller PPA to be discussed.

BUSINESS CONFIDENTIAL AND PROPRIETARY

	to construct, maintain and operate the Server Facility and related equipment on a parcel of property approximately 150' by 150'.
20. Assignment	<p>Buyer may assign or transfer the Wind PPA or the Other Agreements in whole or in part, only with Wind Seller's prior written approval, not to be unreasonably withheld. For purposes of the foregoing sentence, assignment will include collateral assignment and any change of control of Buyer. Buyer's assigned party shall be responsible for providing credit security at least equal to Buyer, as defined by rating, net worth, or other metric to be specified in the Definitive Agreement.</p> <p>Seller may assign or transfer the Wind PPA or the Other Agreements in whole or in part to affiliates or to any new full or partial owners of Wind Project representing cash equity.</p>
21. Confidentiality and Information Release	<p>The Term Sheet and information relating to or referencing this Term Sheet, and any draft documents or oral communications exchanged between the parties in connection with this Term Sheet are considered "<u>Confidential Information</u>" for purposes of the Nondisclosure Agreement between Buyer and Seller. The parties agree to treat Confidential Information disclosed hereunder in accordance with the terms and conditions of the NDA.</p> <p>None of the parties or their affiliates will issue any statement or communication to any third party or share the Confidential Information of or related to this Term Sheet (other than with its legal and accounting advisors, potential lenders, equity investors, acquirers or assignees who agree to keep such information confidential) regarding the Term Sheet, including, if applicable, its termination and the reasons therefor, without the written consent of the other party.¹⁶</p>

THIS DOCUMENT DOES NOT CONSTITUTE A BINDING OFFER, SHALL NOT FORM THE BASIS FOR AN AGREEMENT BY ESTOPPEL OR OTHERWISE, AND IS CONDITIONED UPON EACH PARTY'S RECEIPT OF ALL REQUIRED MANAGEMENT APPROVALS (INCLUDING FINAL CREDIT AND LEGAL APPROVAL). ANY ACTIONS TAKEN BY A PARTY IN RELIANCE ON THE TERMS SET FORTH IN THIS DOCUMENT OR ON STATEMENTS MADE DURING NEGOTIATIONS PURSUANT TO THIS DOCUMENT SHALL BE AT THAT PARTY'S OWN RISK. UNTIL A PPA HAS BEEN EXECUTED BETWEEN THE PARTIES, NO PARTY SHALL HAVE ANY OTHER LEGAL OBLIGATIONS, EXPRESSED OR IMPLIED, OR ARISING IN ANY OTHER MANNER UNDER THIS LETTER OR IN THE COURSE OF NEGOTIATIONS (OTHER THAN ANY OBLIGATIONS UNDER ANY NONDISCLOSURE AGREEMENT EXECUTED BY THE PARTIES).

¹⁶ NTD: Parties to discuss requirements for Confidentiality with third party contractors (e.g., engineering) and if additional NDAs are necessary.

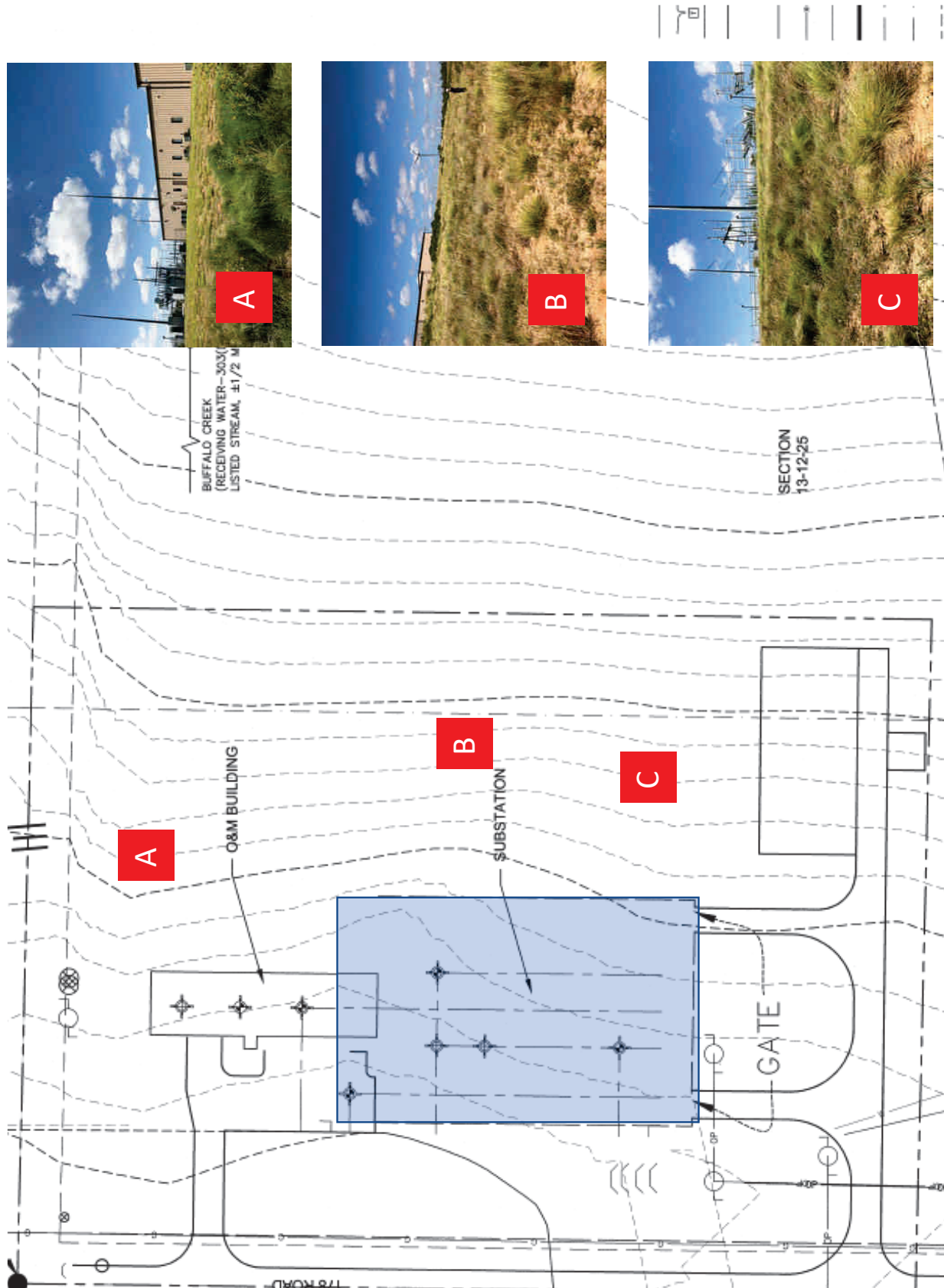
Acciona Big Smile

Site Visit September 19, 2019

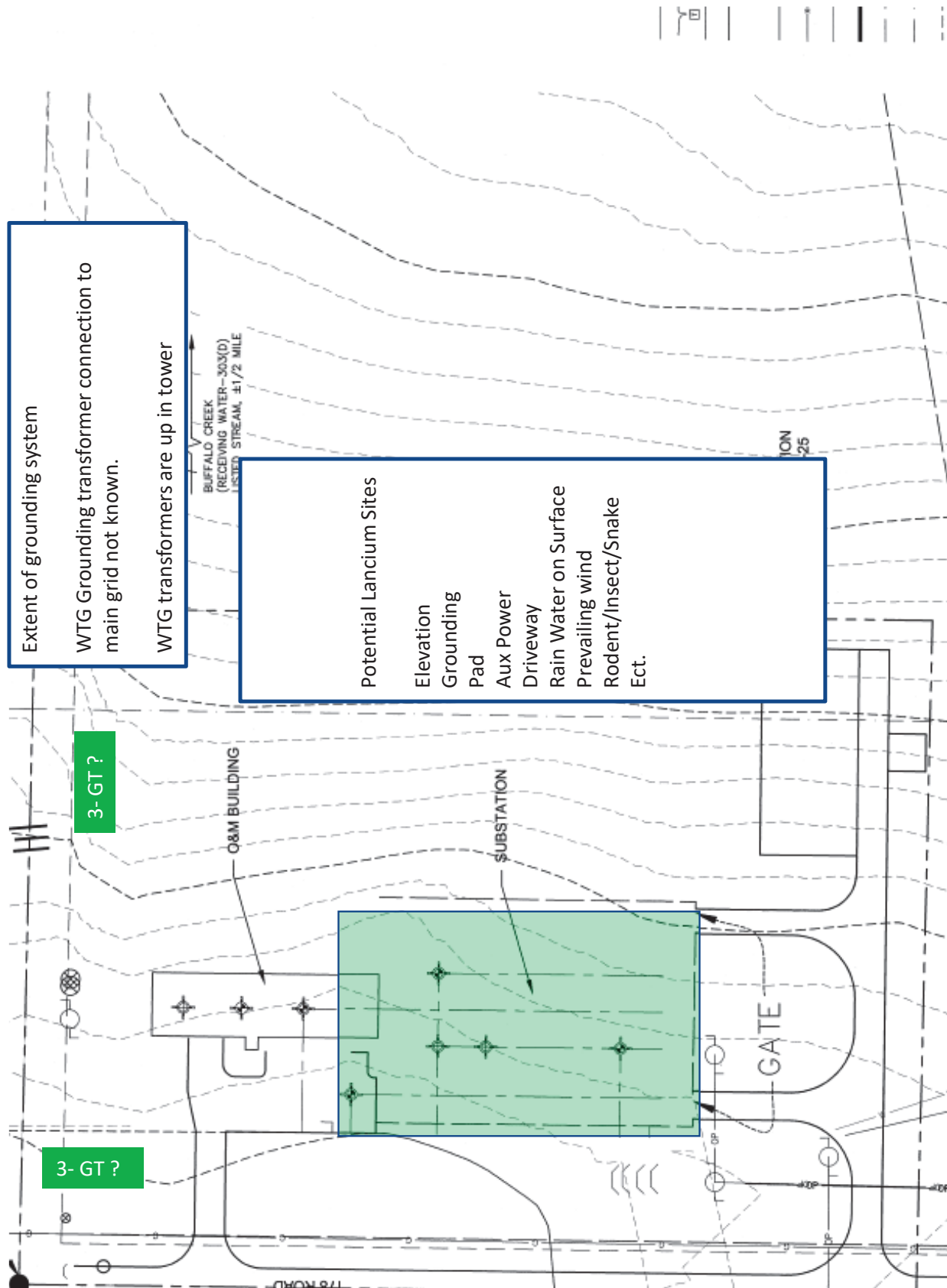
Majors Topics regarding Interface to Lancium

Bearbox v Lancium
Trial Exhibit
TX178

LANCIUM00014635



Appx11402



LANCIUM00014637

Water Well Pump House,
NW of OM building

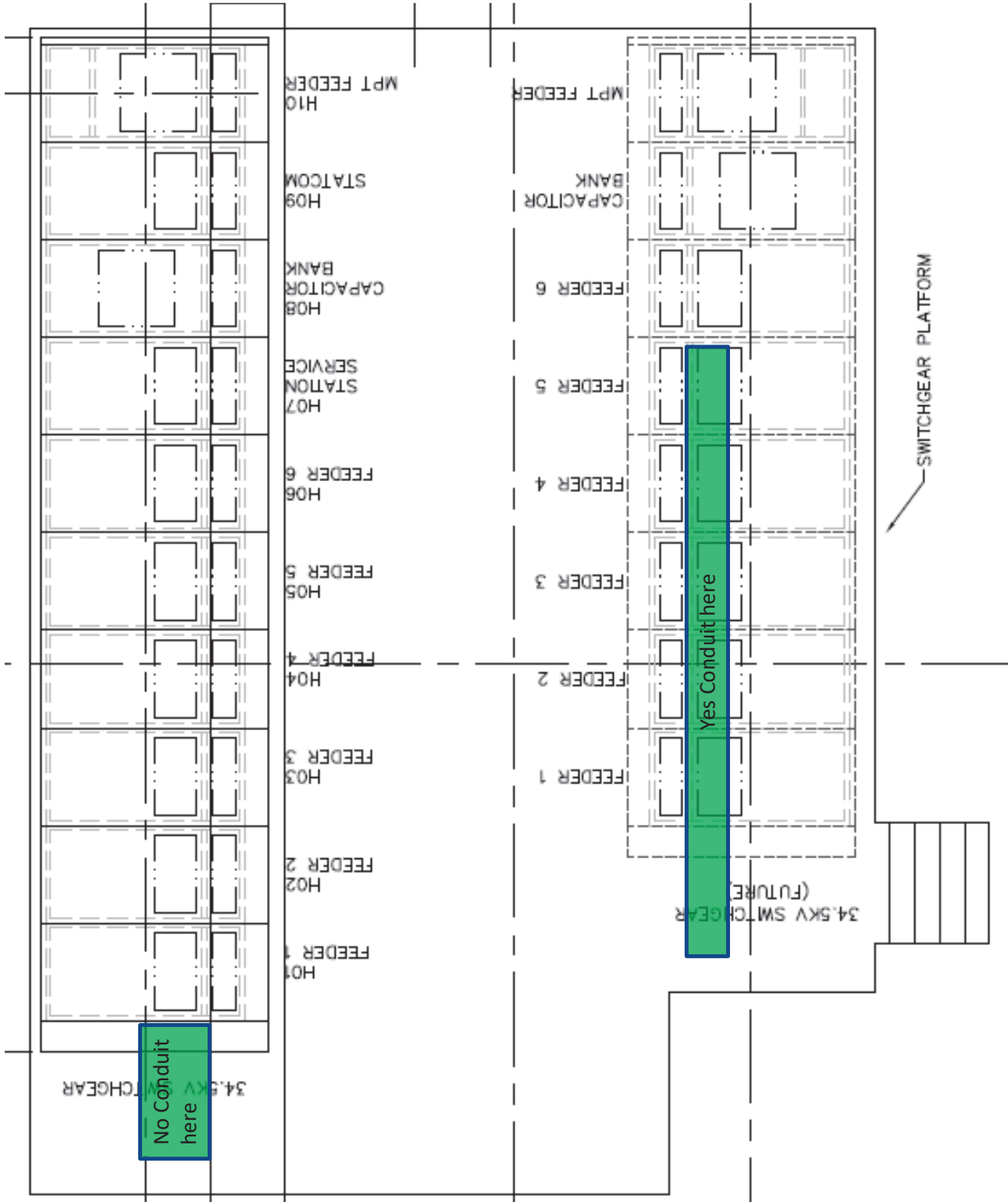


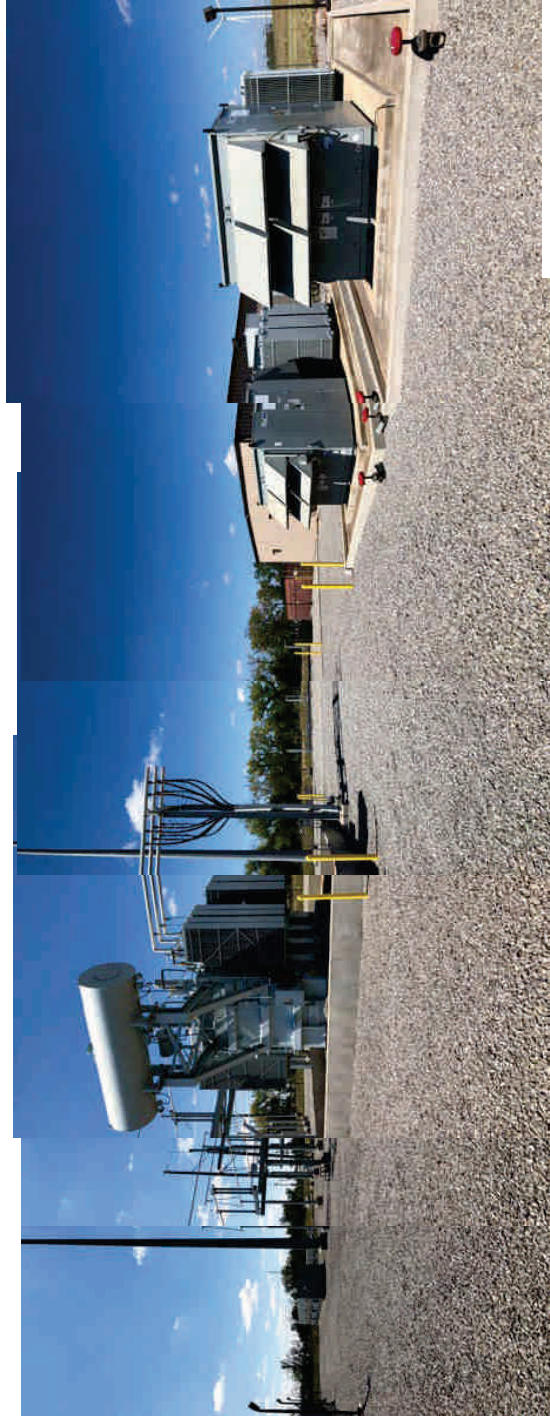
Septic tank, possible leaching field
East of OM building

34kV general arrangement,
installed on top of elevated
deck.



Unused conduit for future WTG's,
under NW corner of Switchgear deck,
Note, it is not under NE corner,





Appx11407

LANCIUM00014641

Data Center | ServiceNow

https://lancium.service-now.com/nav_to.do?uri=%2Fcmdb_ci_datacenter_list.do%3Fsysparm_userpref_module%3Da38c6ef24fd9960d3eeec321a310c71c%26sys... Vitor Henriques

LANCIUM Service Management

Filter navigator

- My Connected Apps
- My Profile
- My Tagged Documents
- My Tags
- My Knowledge Articles
- Take Survey
- My Assessments & Surveys
- My Assets
- My Notification Preferences
- Service Desk
- Tier44 EM/8
- Getting Started
- Map View

	Name	Location	Power	Power consumption
<input type="checkbox"/>	DROK	Dempsey Ridge Wind Farm		2,000,000
<input type="checkbox"/>	Lancium Demonstration Module	Lancium HQ		2,000,000
<input type="checkbox"/>	Lancium Houston	Lancium HQ		2,000,000
<input type="checkbox"/>	MCTX	McAdoo Wind Farm		2,000,000

Actions on selected rows...

1 to 4 of 4

Bearbox v Lancium Trial Exhibit TX179

LANCIUM00014642

Data Center | ServiceNow
LMF01031401 | Miner | ServiceNow
MCTX | Data Center | ServiceNow

https://lancium.service-now.com/u_cmdb_ci_miner.do?sys_id=b8200f0db54234048ccbfaf4b96199c

Miner LMF01031401
Dashboard
Form
Update
Graphical View
Delete

Name
LMF01031401
Model ID
Bitcoin Antminer S9
Manufacturer
Bitcoin
Location
Class
Miner
Comments

Serial number
BLDT14PAHJABIM435
Asset
Asset tag
Status
Installed

Configuration

Host name
IP Address
10.1.31.1
Description

Related items

- Contained by - Data Center
IL31 DR01 → DR0K
- Contained by - Racks
IL11 DROK-DR01-01
- Contained by - Computer Rooms
IL21 DR0K-DR01-01 → DR01
- Powered by - Power Supply Units
IL11 1057X1810024Z

Update
Graphical View
Delete

Related Links
[Discover now](#)
[Subscribe](#)

LANCIUM00014643

Holistic Power Management®

[Start Hacking](#)
[Stop Hacking](#)
[Redpool Miner](#)
[Select All](#)

© 2015-2018 Copyright Tenda Technologies, Inc. All Rights Reserved. | [Legal](#)

Banbox v. Lendum
 Trial Exhibit
TX180

Appx11410

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Jon Cohen <jon.cohen@lancium.com>, David Henson <david.henson@lancium.com>, Raymond Cline <recline@lancium.com>, Eric Kutscha <eric.kutscha@lancium.com>, Ian Rock <ian.rock@lancium.com>, Lloyd Geisler <lloyd.geisler@lancium.com>, Prashant Gupta <munshiji@gmail.com>

Subject: Demo Day Script

Date: Sun, 26 Aug 2018 13:17:06 -0700

Please see below for my ideal demonstration day. Please give feedback and we can amend and get to Clemens / CDI etc.

SBI Walk Through on Demonstration Day

Lancium / Tier 44 Introduction / Conference Room (30 min)

- Overview of the Lancium system
 - o Tier44 and ServiceNow intro with emphasis on scalability and platform
- High level information on technical aspects of solution as it concerns S9's
 - o Bus system commands / shell scripts / BM Miner etc
 - o Functionality now and in the future
- Power Assure history and Tier44 origins
- Details on power ramping opportunity
 - o Potential market in data centers / corporates / resources management for other servers
 - o Opportunities and challenges

Network Operating Center Introduction / NOC (30 min)

- Represent three separate installations: Thomas Road, Project A, Project B
- Display map of TX on main NOC screens showing "geographic location" of all three projects
- Select Thomas Road
 - o Load chart of current power price
 - o Load chart of current available miners
 - o Load status of all miners (120 available /120 mining etc)
 - o Load historical (last 24 hours and last 30 days) of KPIs (power consumed, TH of hashing performed, power cost over time period, economic outcome)
- Select Project A (review same statistics)
- Trouble Ticket walk through (minor)
 - o E.g. miner at half hashing power -> soft reboot x4 -> if not fixed escalate to technician ticket
- Trouble Ticket walk through (major)
 - o E.g. fire detected -> drop all power -> drop louvers -> send HIGHEST PRIORITY technician ticket

Thomas Road Facility Walk Through (30 min)

- [We may have 10,000 SBI miners at this time so content subject to change]
- Tour of facility racks with emphasis on:
 - o Cooling and airflow
 - o Busway system
 - o Testing performed on heat tolerance of S9's
 - o Testing performed on ramping history/tolerance of S9's
- Tour of Demo Box with emphasis on:
 - o Cooling and airflow
 - o Fire suppression
 - o Cost
 - o Improvements to be made in Commercial boxes today and in future generations

Ramping Demonstration (the fireworks!) (30 min)

- Scripted: Walk to floor racks representing "Project A"
 - o Display iPhone or iPad that indicates power prices are spiking and they tick up to \$72/MWh, \$73/MWh etc
 - o When prices hit \$75/MWh all the racks drop power in real time and miners go to idle

Bearbox v Lancium Trial Exhibit TX189
--

- Scripted: Walk to Demo Box representing "Project B"
 - o Display iPhone or iPad that shows that power production from Project B Wind Farm is dropping
 - o Turn off half the racks (maybe in a rack by rack cascade - other half of racks still running) in real time to represent dynamic ramping capability
- Scripted: Return to "Project A" racks
 - o Show power price down to \$50/MWh and miners ramping back up to full power

--

(917) 833-2720

From: Raymond Cline <recline@lancium.com>
To: "ian.rock" <ian.rock@lancium.com>, Stewart Hair <stewart@lancium.com>
Subject: Got it!
Date: Wed, 27 Jun 2018 22:26:54 -0500

I found that there is a monitoring script that looks every 20 seconds to see if bmminer and single-board-test (the components needed for mining) are running. If they are not, it restarts them. It then takes about 6 minutes after bmminer starts to return to hashing.

So, I thought it would be easy just to kill the monitorcg script, then kill bmminer and single-board-test. Easy enough, but then monitorcg restarts. It is established as a respawn task at system init. So, whenever it dies the OS restarts it.

However, the OS does not restart monitorcg when the system is in init 1 (single user mode). So, the answer is:

```
init 1
killall -9 bmminer
killall -9 single-board-test
```

Then when you want to bring it back to mining status:

```
init 5
```

monitorcg takes over from there...

So, we should be able to bring systems down to just the Linux board and fans. i will test this again and make sure it works.

Testing

Hmm, looks like all you really have to do is do init 1 and it brings down monitcg, bmminer, and single-board-test

Yep, confirmed: from root init 1 shuts down the mining and init 5 restarts it.

Cheers,
Ray

Raymond E. Cline Jr., PhD
Chief Mining Officer

Bearbox v Lancium Trial Exhibit TX190
--

From: Jon Cohen <jon.cohen@lancium.com>
To: Michael McNamara <michael.mcnamara@lancium.com>
Subject: Re: Other Thomas Investment
Date: Thu, 11 Oct 2018 21:39:13 -0500
Importance: Normal
Attachments: dashboard_content.pptx

Thats just from Eric. He wants some power monitoring stuff.
We should call that guy on Sherbino tomorrow to get some market color

here are some ideas for dashboard stuff. Just needs to be put into charts / tables

On Thu, Oct 11, 2018 at 10:25 PM Michael McNamara <michael.mcnamara@lancium.com> wrote:
Where did this come from???

On Thu, Oct 11, 2018 at 7:20 PM Jon Cohen <jon.cohen@lancium.com> wrote:
We still need to get a budget out of them.

----- Forwarded message -----

From: **Eric Kutscha** <eric.kutscha@lancium.com>
Date: Thu, Oct 11, 2018 at 6:35 PM
Subject: Other Thomas Investment
To: Jon Cohen <jon.cohen@lancium.com>, Rachel Arndt <rachel.arndt@lancium.com>
Cc: David Henson <david.henson@lancium.com>

We need to purchase and install stationary and portable power monitoring equipment.

Please reserve \$ 50 K

Thanks, Eric

--

Eric Kutscha
Lancium LLC
Mobile 262-385-4428

--

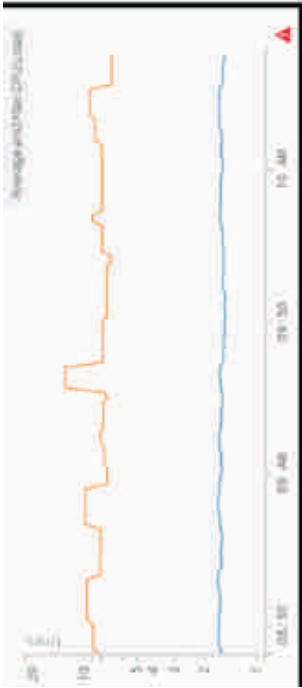
(917) 833-2720

Bearbox v Lancium Trial Exhibit TX222

Emergency Off Button
Alert Status (Red Green)



12.18 MW
70%



ERCOT Operating Reserves
4CP Alert Status NA
Forecast Load
LMP (timestamp)
+5, +10, +15, etc

Weather Conditions (nearest weather station)
Temperature
Humidity
Wind Speed
Wind Direction

1.9 PH
65%

Monthly Statistics (charts)
Power Availability
Miner On-line %
Hash rate % of Max

Coin Price BTC BTC
Network Hashrate
S7 Breakeven Price
S9 Breakeven Price
Avalon Breakeven

Miner Status
Operating within test parameters
Offline / Defective xxx / xxx (x%)
Above B/E Threshold xxx / xxx (x%)

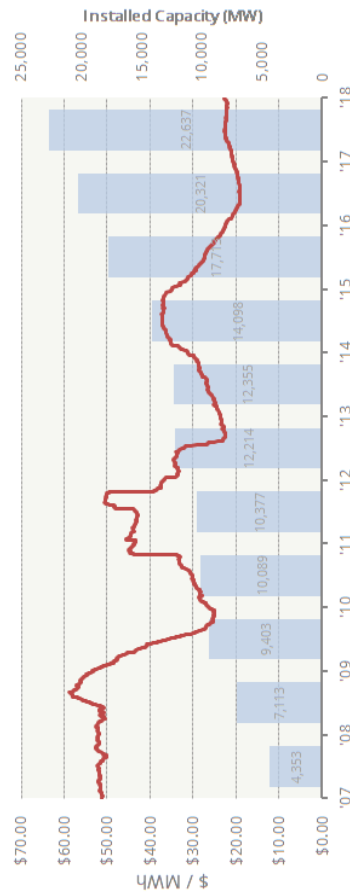
Beaurox v. Lantium
Trial Exhibit
TX223



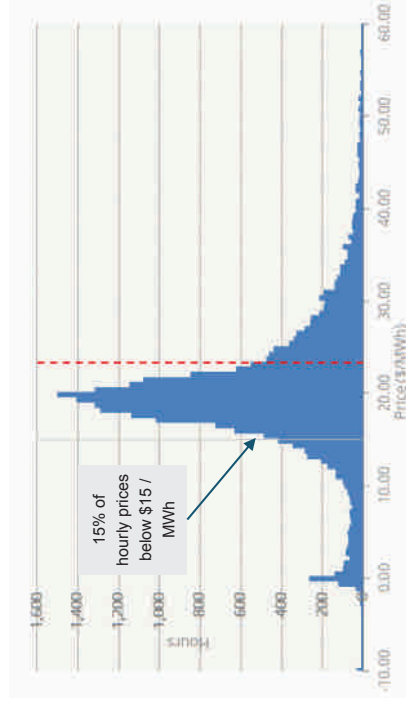
The Opportunity

WIND: LOW AND FALLING POWER PRICES

ERCOT WEST HUB ATC PRICE (USD / MWh)



DISTRIBUTION OF POWER PRICES



From 2015 to 2017, ~15% of hourly prices in ERCOT West were < \$15 / MWh; 2% were negative

Lancium allows generators to mitigate low-priced hours, while preserving exposure to high market prices during periods of scarcity

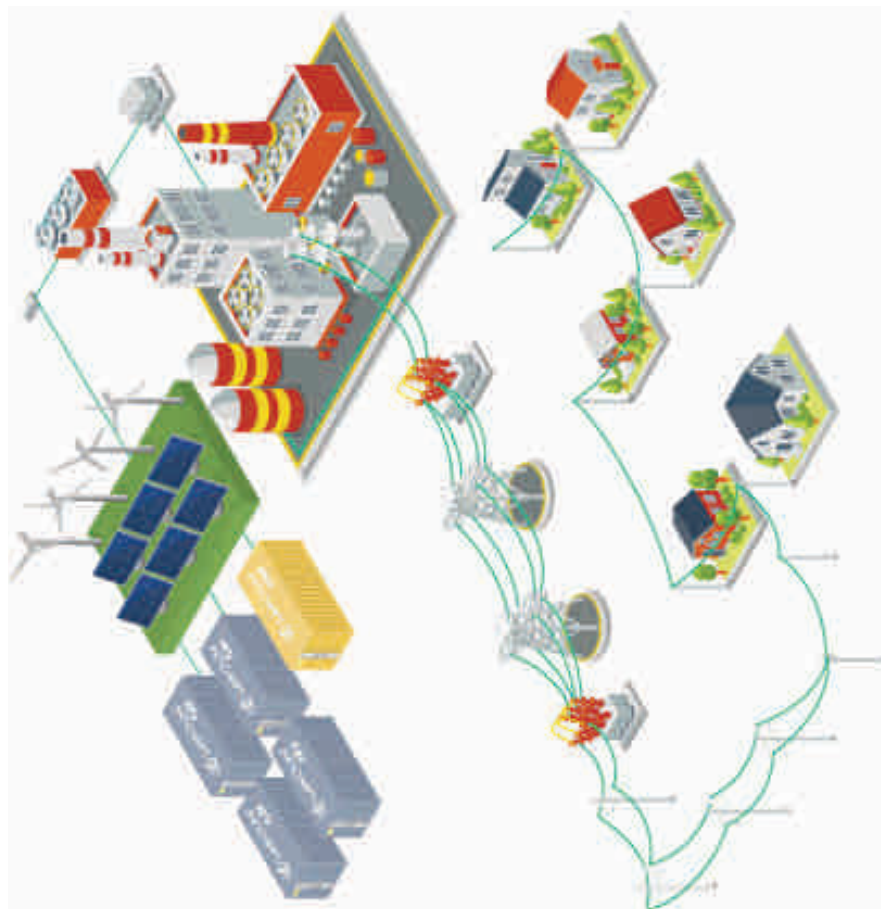


THE LANCIMUM FLEET

Flexible, modular,
mobile units deployed
throughout grid

Fleet can move and
grow/shrink as needed

Lancium will constantly
optimize Core/Flex
deployment dynamically



From: Raymond Cline <recline@lancium.com>
To: Tim Carter <tim.carter@mp2energy.com>
Cc: "ian.rock@lancium.com" <ian.rock@lancium.com>, "thomas.salvatore@lancium.com" <thomas.salvatore@lancium.com>, "vitor.henrique@lancium.com" <vitor.henrique@lancium.com>, MP2 Asset Operations Desk <operations@mp2energy.com>
Subject: Re: Lancium (ADK_LD1) LR
Date: Wed, 28 Aug 2019 14:02:42 -0500
Inline-Images: image001.jpg; image002.png

Tim,

We are adjusting our economic curtailment plans to assure that we consume the obligated load we have been awarded. If we go below that level we will coordinate with the operations desk. We understand that we cannot received an award for power that could be curtailed, if we are not using the power.

I am sure that we will have more discussions as we move forward. All good clarifications so far.

Cheers,
Ray

Raymond E. Cline Jr., PhD
Chief Computing Officer

On Tue, Aug 27, 2019 at 3:16 PM Tim Carter <tim.carter@mp2energy.com> wrote:

Ray,

Following up on our call, any time you need to communicate with our asset desk, you can use the operations@mp2energy.com address. I would suggest using this if:

1. You have any abnormal operations issues (maintenance, for example),
2. You are looking for any information regarding grid conditions and/or events, and
3. If you have any plans of shutting down for economic purposes. What I would suggest is responding to Jacob's daily email regarding the awarded volumes with any intentions that you may have – whether known operational issues, 4CP shut downs and any likely real time energy strike prices. As I mentioned, participation in Load Resources is deemed a committed obligation once awarded in the day ahead market, but our team will do their best to accommodate your desired load flexibility. I DO NEED TO MAKE A CORRECTION to what I said on the call; any time your load does not meet it's obligation, the day ahead awarded value will show the impact in a reduced payment in your settlement statements. The value of the reduction will be what we covered on the call – the volumes multiplied by the clearing price. This is done on a 15 minute basis, however. So the hourly value we calculated on the call would be divided by 4 to give you the 15 minute impact.

Give me a call if there is anything that doesn't make sense here.

Bearbox v Lancium
Trial Exhibit
TX310

Tim Carter CEM, CDSM, CEP

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1061 | C 832.684.5645 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Raymond Cline <recline@lancium.com>

Sent: Tuesday, August 27, 2019 2:08 PM

To: Tim Carter <tim.carter@mp2energy.com>

Cc: ian.rock@lancium.com; thomas.salvatore@lancium.com; vitor.henrique@lancium.com

Subject: Re: Lancium (ADK_LD1) LR

Tim,

I sent a conference call invite for 2pm. Did you get it?

Cheers,

Ray

Raymond E. Cline Jr., PhD

Chief Computing Officer

On Tue, Aug 27, 2019 at 9:08 AM Tim Carter <tim.carter@mp2energy.com> wrote:

Absolutely. I'm available after 2 CDT pm today and available all morning tomorrow. Tell me what time works best for you and your team and I'll send a calendar invite with a conference number.

Tim Carter CEM, CDSM, CEP

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1061 | C 832.684.5645 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Raymond Cline <recline@lancium.com>

Sent: Tuesday, August 27, 2019 7:54 AM

To: Tim Carter <tim.carter@mp2energy.com>

Cc: ian.rock@lancium.com; thomas.salvatore@lancium.com; vitor.henrique@lancium.com

Subject: Re: Lancium (ADK_LD1) LR

Tim,

We are just trying to learn how best to take advantage of your service. Is it possible to set up a call so that we can understand the spreadsheet we are receiving and how best to use the information?

Cheers,

Ray

Raymond E. Cline Jr., PhD

Chief Computing Officer

On Mon, Aug 26, 2019 at 2:16 PM Tim Carter <tim.carter@mp2energy.com> wrote:

Hi Ray, my apologies for not responding sooner; I meant to respond Thursday that we were working up something for you guys but got tied up; and I was out of the office on Friday. However, it sounds like Jacob has already sent you what we worked up for you; let me know if you have any further

questions/concerns. I'll do my best to be more timely! (you can always call my cell phone with any problems).

Tim Carter CEM, CDSM, CEP

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1061 | C 832.684.5645 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Raymond Cline <recline@lancium.com>

Sent: Thursday, August 22, 2019 9:04 AM

To: MP2 Asset Operations Desk <operations@mp2energy.com>

Cc: ian.rock@lancium.com; thomas.salvatore@lancium.com; vitor.henrique@lancium.com; MP2 Demand Response List <dr@mp2energy.com>; MP2 Settlements <settlements@mp2energy.com>

Subject: Re: Lancium (ADK_LD1) LR

Thank you for the notice, it is great to be on board. For our own internal power management we need to know the value of our demand response adjustment as it changes. Is there a data feed or website where we can access the current value of the adjustment from demand response?

Cheers,

Ray

Raymond E. Cline Jr., PhD

Chief Computing Officer

On Thu, Aug 22, 2019 at 6:58 AM MP2 Asset Operations Desk <operations@mp2energy.com> wrote:

Good morning Lancium team,

You are all set up and have been offered into the LR program starting tomorrow (8/23/19). Listed below is our operations desk contact (24/7/365) in case you have any questions and/or need to opt out of the LR temporarily. Also, listed below are the notifications that you will receive via e-mail, phone call & text for an actual LR event and/or testing. Please let us know if you have any questions. Thanks!

operations@mp2energy.com

888-896-8629 – APX (24/7/365)

Participant	First Name	Last Name	Email	Phone Number	Mobile Number	Text Msg Number
MP2-Lancium	Ian	Rock	ian.rock@lancium.com	833-256-2486	713-839-5246	713-839-5246
MP2-Lancium	Raymond	Cline	recline@lancium.com	833-526-2486	713-560-6855	713-560-6855
MP2-Lancium	Thomas	Salvatore	thomas.salvatore@lancium.com	833-526-2486	541-918-1442	541-918-1442
MP2-Lancium	Vitor	Henrique	vitor.henrique@lancium.com		832-815-9054	832-815-9054

LR Phone Curtailment

This is an EMERGENCY notification from MP2 Energy. Please listen carefully as mandatory action is required. At this time, ERCOT is requesting emergency mandatory LAAR curtailments. This LAAR curtailment is to be implemented immediately, and load should remain off until you receive the restore notification. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640.

LR Phone Recall

This is an EMERGENCY notification from MP2 Energy. Please listen carefully as mandatory action is required. At this time, ERCOT is restoring emergency mandatory LAAR. This LAAR restoration is effective immediately; please restore according to protocol. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640.

LR SMS Curtailment

MP2 Energy Alert: ERCOT is requesting mandatory LAAR curtailment at this time. Don't restore load until directed by MP2 Energy. Reply STOP to cancel SMS notifications.

LR SMS Recall

MP2 Energy Alert: ERCOT is restoring LAAR curtailment at this time. Restore load according to protocol. Reply STOP to cancel SMS notifications.

LR Email Curtailment

This is an EMERGENCY notification from MP2 Energy. Please read carefully as mandatory action is required. At this time, ERCOT is requesting emergency mandatory LAAR curtailments. This LAAR curtailment is to be implemented immediately, and load should remain off until you receive the reinstatement notification. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640. Thank you.

LR Email Recall

This is an EMERGENCY notification from MP2 Energy. Please read carefully as mandatory action is required. At this time, ERCOT is restoring emergency mandatory LAAR. This LAAR restoration is effective immediately; please restore according to protocol. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640.

Thanks,

Jacob Magin

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1059 | C 832.702.5108 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains

privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Sarah Ho <sarah.ho@readyengineering.com>

To: Eric Kutscha <eric.kutscha@lancium.com>, "ian.rock@lancium.com" <ian.rock@lancium.com>, Raymond Cline <recline@lancium.com>

CC: Jordie Holton <jordie.holton@readyengineering.com>, Brian Carpenter <brian.carpenter@readyengineering.com>, Tyler Bennett <tyler.bennett@readyengineering.com>

Subject: Updated Control Narrative

Date: Thu, 2 May 2019 15:54:19 +0000


Attachments: Lancium_Control_Narrative_-_Draft_2019-05-01.pdf

Inline-Images: image001.png; image002.png; image003.png

Hi everyone,

As per our discussions yesterday, please find attached the updated control narrative for your further review.

Kind regards,
Sarah

Sarah Ho, P.Eng. | Manager, Buildings & Development
 **READY**
Engineering
t. 780.960.6663 x141
c. 780.885.5546
📍 Spruce Grove, AB

Bearbox v Lancium
Trial Exhibit
TX320

DRAFT

5.3 Load Management

Lancium Data Centers are located in close proximity to a power provider and the contractual terms for purchase and utilization of power require Lancium to manage power utilization (load) of the data center. This is called “ramping of power consumption” and typically follows the daily/hourly plan coordinated with the power provider.

5.3.1 Load Management – Lancium

Lancium can manage load utilization at a distributed computing site using the following methods:

A. Soft Load Control (Software Instruction)

- a. The Lancium NOC may use software instructions to adjust computational activity for each computing rack across the site thereby managing total electrical load utilization to desired or permissible levels.
- b. Lancium’s implementation of Soft Load Control allows computing racks to be adjusted down to an idle state to minimize power utilization while leaving computing equipment in an online state and receptive to later instruction.

B. Hard Load Control (Module Supply Main Breaker Action)

- a. The Lancium NOC, or a local Lancium Operator/Technician, can open/close the module supply main breakers. Each module has two supply main breakers that can be controlled individually.
- b. Opening a main breaker causes de-energization of associated computing racks and exhaust fans, decreasing overall site load utilization. Closing a main breaker allows for energization of associated computing racks and exhaust fans, increasing overall site load utilization.
 - Note that Site UPS power is provided through an auxiliary circuit breaker to critical module-level devices (e.g. network switches, I/O Aggregator etc.) even when the module supply main breakers are open.
 - The computing load is not powered by the Site UPS.

Soft Load Control is preferred over Hard Load Control for load reduction. Hard Load Control is used as a backup, to trigger opening of breakers when Soft Load Control mechanisms fail to (or cannot) keep load utilization below defined limits (within defined time and magnitude thresholds).

5.3.2 Load Management Coordination – Power Provider

The power provider can direct or coordinate electrical load utilization at the Lancium site using the following methods:

A. Site Supply Main Breaker

- a. The power provider has the capability to control the site supply main breaker and quickly shed all load utilized by the site.
- b. This option is only to be used without warning when the power provider has an emergency requiring fast load shed to stabilize or protect generation assets.

B. Person to Person Communication (telephone, email etc.)

- a. The power provider can communicate directly with personnel at the Lancium NOC who in turn can implement Soft Load Control mechanisms (see section 5.3.2) to manage

DRAFT

processing activity levels for computing racks across the Lancium site in order to adjust electrical load utilization to required levels. This communication may take the form of a coordinated daily/hourly plan.

C. Communicated Control Signals

- a. The power provider can update control system signals which are passed via secure communications link, received by the Lancium Brain and evaluated to trigger automated actions to manage site load (e.g. Soft Load Control and Hard Load Control, see section 5.3.1).

5.3.3 Automated Load Management – Communications Link

To Be Determined:

What will be the physical infrastructure and communications protocol used to communicate the Load Limit Setpoint to Lancium's system for managing computational activity for the computing racks?

5.3.4 Automated Load Management – Communicated Signals

This section describes one potential implementation of coordinated and automated load management. The actual architecture and implementation of the communication link and communicated signals is to be coordinated with the relevant power provider for each Lancium data center.

To support automated and coordinated load management scenarios the power provider provides to the power consuming site (Lancium), via secure communications link, three (3) primary control signals¹. These signals are described in Table 4-1 below.

Table 4-1: Signals from Power Provider to Lancium Site

Name	Description
Load Limit Setpoint	This integer value, determined by the power provider, represents the maximum allowable electrical load, that may be utilized by the site.
Load Limit Compliance Period	This integer value, determined by the power provider, represents the allowable time duration, after the time when Load Limit Setpoint has been reduced, for the site to reduce load utilization below the new Load Limit Setpoint value. >= 0: Tolerance thresholds enabled < 0: Tolerance thresholds disabled
Metered Load	Real-time site load utilization as metered by the power provider.

¹ Other signals such as watchdog bits may also be used to validate the integrity of the communications link.

DRAFT

5.3.5 Automated Load Management – Automated Response

The Lancium Brain monitors the value of the Load Limit Setpoint and the Load Limit Compliance Period as communicated from the power provider.

The Load Limit Setpoint value is evaluated and used in determination and initiation of Soft Load Control mechanisms that are used to maintain load at or below the Load Limit Setpoint by managing computational activity (and power usage) for module computing racks in order to manage total power utilization across the site.

The Lancium Brain maintains an Internal Load Limit variable that is used to determine when and if Hard Load Control action is to be initiated. Hard Load Control action is triggered only when site load is greater than the Internal Load Limit A) by more than a configurable threshold value (e.g. 2 MW), or B) for longer than the configurable threshold duration (e.g. 2 minutes). This allows site load to momentarily spike above the load limit (within reasonable limits), without triggering breaker action.

In general (steady state), the Internal Load Limit value is set equal to the communicated Load Limit Setpoint value. However, when the communicated Load Limit Setpoint value is reduced, and the communicated Load Limit Compliance Period value is greater than zero, then the Internal Load limit is maintained at its previous value until the compliance period has elapsed (from the time when the load limit was reduced), after that it is again set equal to the communicated Load Limit Setpoint value.

- **Load Limit Compliance Period ≥ 0 :**

When the site load is greater than the Internal Load Limit value and the compliance period is zero or greater (positive) then Hard Load Control action is triggered only when site load is greater than the Internal Load Limit value and the extends beyond the duration or magnitude thresholds described above.

- **Load Limit Compliance Period < 0 :**

A negative Load Limit Compliance period can be used by the power provider when a load reduction is to occur as fast as possible (e.g. islanding of generation assets).

When the site load is greater than the Internal Load Limit value and the compliance period is less than zero (negative), then Hard Load Control action is triggered immediately when site load is detected as greater than the Internal Load Limit value.

5.3.5.1 Automated Response – Module Supply Main Breakers

When the Lancium Brain determines that Hard Load Control actions are required it evaluates the total site load against its internal Load Limit Setpoint and controls the module supply main breakers per the following description:

- Power meter readings from each module are used to determine which module main breakers are to be opened such that overall site load will be reduced below the load limit. Control signals are passed from the Lancium Brain to the specified modules, causing specified breakers to open.

The Lancium Brain may be configured to implement prioritization of certain modules over others.

Phase 2_Luncum.xlsx									
Open with Google Sheets									
Phase II Timeline:									
	A	B	C	D	E	F			
Item	Task	Start Date	Finish Date	Responsible	Comments				
1	Tier44 to integrate its automation platform into the mining environment to replace shell scripts with a broad-based mechanism for faster colorIT capabilities.	11/1/2018	11/31/2018	Tier44 - Tread/Cannato/Phuc					
2	Tier44 to work with CDI on automating the setup and provisioning of new hardware	11/1/2018	11/31/2018	CDI - Buiqu/Tier44 - Olanewa					
3	Tier44 to integrate with wind farms and pricing data feeds as required during this time period Information needed about wind farms : a. Availability b. Price	11/1/2018	11/31/2018	Tier44/Lancum					
4	Tier44 to implement power price/availability based adjustments of mining capacity a. Higher price -> only run 50 b. Lower price -> add 50	11/1/2018	11/31/2018	Tier44 - Tread/Cannato/Phuc					
5	Design and implement an emergency shutdown.	01/31/2018	11/31/2018	Tier44					Website on local appliances and not through Service Now

From: "Sims, Trey" <tsims@tas.com>

To: ian.rock <ian.rock@lancium.com>, "David Henson (david.henson@lancium.com)" <david.henson@lancium.com>

CC: "Sims, Trey" <tsims@tas.com>

Subject: RE: 1803343 Lancium Data Box - Design Basis

Date: Fri, 11 May 2018 16:28:21 +0000

Attachments: Lancium_Data_Box_-_Design_Basis_20180511_R3.2.docx; Lancium_Data_Box_-_Schedule_05.10.18.pdf

David / Ian – good meetings yesterday. It felt like that the meeting today would be the critical discussions - TAS wishes you the best.

Leaning forward, TAS would like to invite ourselves to your shop mid-next week. The objective of the meeting is to finalize all outstanding scope details on the 4 x 1.6MW Data Box solution. This would allow TAS to provide a firm proposal to Lancium by 5/21 and keep the development units on schedule to deliver by 7/31. Would next Wednesday afternoon or Thursday morning work?

See attached current project design guide. I pulled the current Lancium questions from design guide and listed them below. I have also attached a high-level schedule that we are currently working towards. This should match the same timeline and production capacity that we have discussed this week.

Lancium Questions

1. Confirm scope split
2. Miner shelves supplied by Lancium or TAS?
3. Miner SCADA footprint, conduit and cable requirements
4. Miner relative humidity envelope
5. Plan for electrical distribution from Distribution Panel Boards all the way to the Miner Power Supply.
6. Confirm fire system media – CO2 vs misting system.

Thank you,

Trey Sims

tsims@tas.com

cell 281.229.4469

From: ian.rock <ian.rock@lancium.com>

Sent: Friday, May 11, 2018 6:57 AM

To: Sims, Trey <tsims@tas.com>

Subject: Re: 1803343 Lancium Data Box - Design Basis

Trey, i am generally good.

We can discuss the stairs and have to consider the cable management depending on the solution.

Ian

Ian J Rock

Operations Manager
Lancium

Bearbox v Lancium Trial Exhibit TX371
--

Thanks very much, Ellen.

Jesus,

Very nice to e-meet. Maybe we could hop on a call tomorrow to discuss?

Sent from my iPhone

On Nov 16, 2017, at 3:55 PM, Ellen Wolfe <ewolfe@resero.com> wrote:

Jesus and Michael,

I'd like to take the liberty of introducing you both.

Jesus: Michael is with an up and coming firm, Lancium. He and his partners are developing deployable/dispatchable load products that both take advantage of negative prices and can be demand response resources and curtail under negative pricing. Carrie and I did a CAISO energy market seminar for them a week or so back. They are investigating lots of options and your name came up. You may be useful to them with connections at the capital, and also Carrie said you've been doing a lot of work in Hawaii and they would like to explore that market.

Michael: Jesus has a small consulting/advocacy firm, and we partner with one another regularly. He's been in the industry but also is very connected in the legislative/political circles.

Might you both exchange info and consider whether you might want to have a phone call to see if Jesus' talents may be of benefit to you?

Thanks!
Ellen

Ellen Wolfe
Resero
916 791-4533
ewolfe@resero.com
www.resero.com

<LANCIUM TECHNOLOGIES INC AND ADVANTAGE GOVERNMENT CONSULTING LLC NDA 11 28 2017.pdf>

From: Michael McNamara <michael.mcnamara@lancium.com>

To: David Henson <david.henson@lancium.com>, Prashant Gupta
<prashant.gupta@lancium.com>, Steve Pattyn <steve.pattyn@lancium.com>

Subject: Deck

Date: Wed, 27 Dec 2017 17:10:33 -0500

Attachments: Lancium_Investor_Deck_Q118_v1.pptx

Just playing with the deck.

See new place holders and content that I am thinking about. Feedback welcome

--

(917) 833-2720

Bearbox v Lancium Trial Exhibit TX373
--



Bearbox v. Lancium
Trial Exhibit
TX374

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM000025166



OPPORTUNITY

EXECUTIVE SUMMARY

Lancium is solving two of today's most prominent problems in emerging technology





Exploding demand for electricity from cryptocurrency mining

Proof-of-Work blockchain currencies require a
tremendous and growing amount of energy



CONFIDENTIAL - ATTORNEY'S EYES ONLY



Excess and wasted renewable energy

Exponential renewable energy growth and wasted
petrochemical energy is causing grid instability and
environmental destruction

LANCIUM00025168

4



**CREATING a datacenter solution
that can uniquely capitalize on
both of these growing PROBLEMS**

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM000025169



EXECUTIVE SUMMARY

COMMERCIAL PLAN

5



Lancium is currently raising US\$10mm+ to fund commercial roll out



Ability to place up to []MW of “high spec” boxes by Q2 2018 with pipeline of 100MW+



Lancium has assembled an executive team with extensive experience in cryptocurrencies, industrial/power, enterprise software and corporate finance



Appx11772

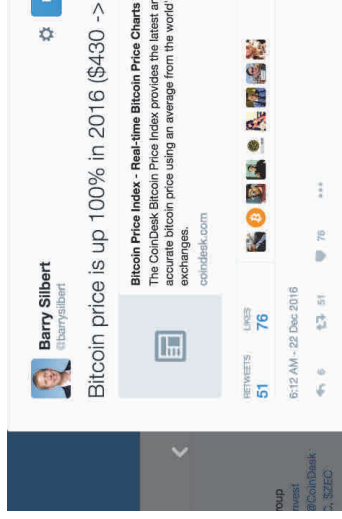
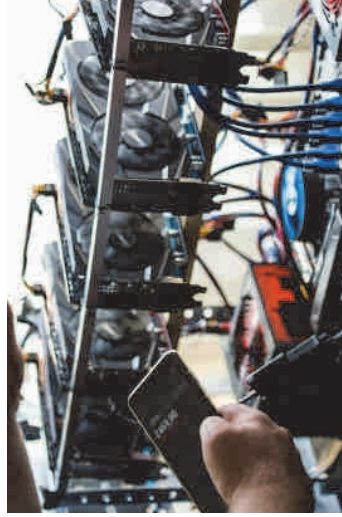
CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025170



6

Bitcoin Energy Consumption: In the News



28

THE RIDICULOUS AMOUNT
OF ENERGY IT TAKES TO
RUN BITCOIN

SEPTEMBER
2017

[Click to Read Article](#)

01

One Bitcoin Transaction
Now Uses as Much Energy
as Your House in a Week

NOVEMBER
2017

[Click to Read Article](#)

01

Bitcoins Energy Consumption
An Unsustainable Protocol
That Must Evolve?

NOVEMBER
2016

[Click to Read Article](#)

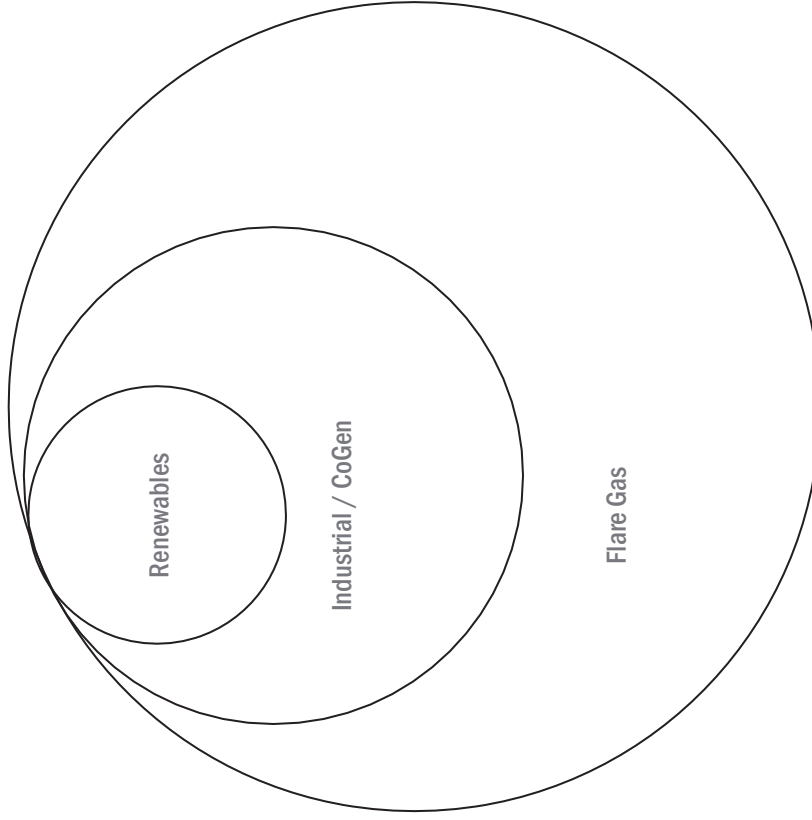
CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025171

Solution: Capturing Wasted Energy

Oceans of Wasted Power

- Renewable Power
 - □
 - □
- Industrial / CoGen
 - □
 - □
- Flare Gas / Vented Methane
 - □
 - □



Appx11774

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025172



The Opportunity

Renewable Power Glut

Renewable energy growth is exploding and growing faster than anticipated

This growth is causing serious issues including:

- Negative power prices
- Volatility attributed to curtailment, congestion and load response requirements

This power is effectively stranded and actually has a strong negative impact on the availability and stability of the power grid

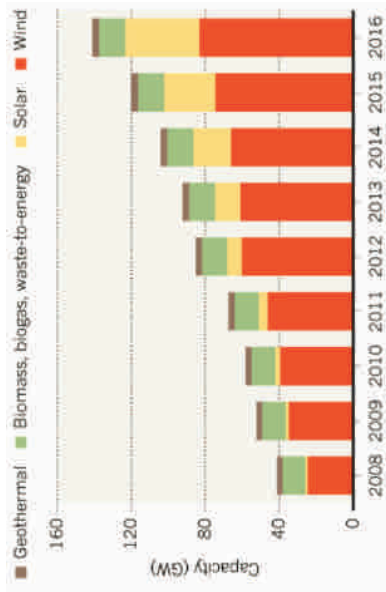
There is limited industrial user for this power due to its volatility and scale, its distributed nature and forecast/technology development challenges

CONFIDENTIAL - ATTORNEY'S EYES ONLY

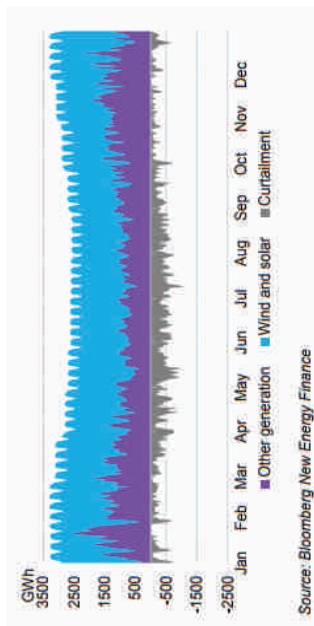
LANCIUM000025173

8

RENEWABLE ENERGY GROWING EXPONENTIALLY



SO ARE POWER CURTAILMENTS

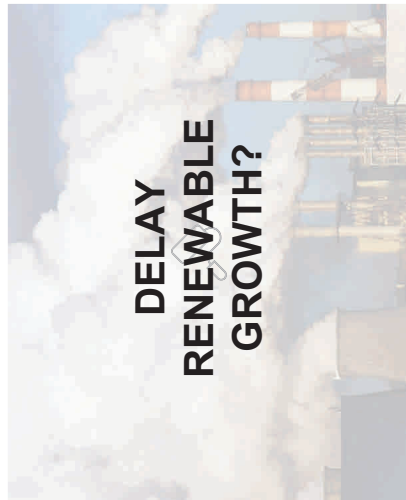




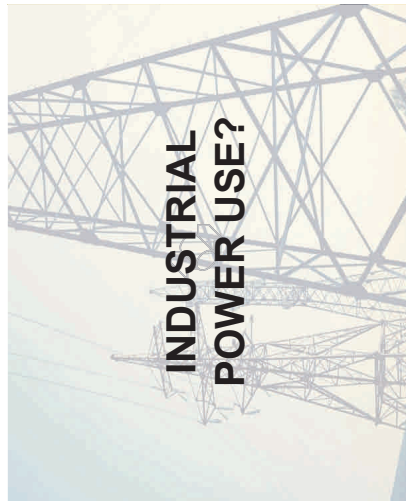
RENEWABLE: POSSIBLE SOLUTIONS



- Not Economically Feasible
- Earliest Scale Deployment
5+ Years Out



- Environmentally Desstructive
- Politically Impossible
- Economically Foolish



- Industrial Users Cannot
Absorb and Drop Very Large
Loads Quickly

Solution: Capturing Wasted Energy

Industrial and CoGen

- 6,000MW+ of installed CoGen in the US alone
 - □
 - □
- Excess power is largely ignored by producers and sometimes sold into very weak pools
 - □
 - □
- Potential to sit “behind the fence”
 - □
 - □



CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025175

Solution: Capturing Wasted Energy

Flare Gas and Vented Methane

- Total flare gas in the US of []mcf/d
 - []
 - []
- Environmentally destructive and wasteful
 - []
 - []
- Shale wells drilled for liquids alone with nat gas as a wasted by product
 - []
 - []



Appx11778

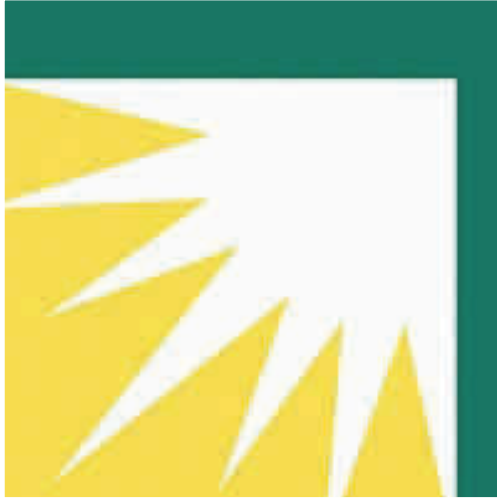
CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025176



POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS



UTILITIES

Value Proposition:

Consumer prices are rising despite low power prices due to volatility and inefficiency.

Lancium will sell, install and service a fleet of units to provide price stability and cost savings.



POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS



GRID

Value Proposition:

Power grids are suffering from selective excessive power & heavy ramping needs causing instability and volatility.

Lancium will sell, install and service a fleet of units to provide price stability and cost savings.



POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS



INDEPENDENT POWER PRODUCERS

Value Proposition:

Power producers are forced to curtail production or sell power at negative prices at certain times.

Lancium will provide power producers a “put” and receive free or nearly free power in exchange.



11

POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS

INDUSTRIAL POWER

Value Proposition:

Capture power that would otherwise be sold into an adverse market

Lancium will located units (behind the fence) to []



11

POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS

E&P COMPANIES

Value Proposition:

Lancium will provide a methane capture system that will prevent flaring / venting and use natural gas to power []

[]

The Lancium Fleet

“High Spec” Box

■ □ ■ □
■ □ ■ □
■ □ ■ □

“Low Spec” Box

■ □ ■ □
■ □ ■ □
■ □ ■ □

Appx11785

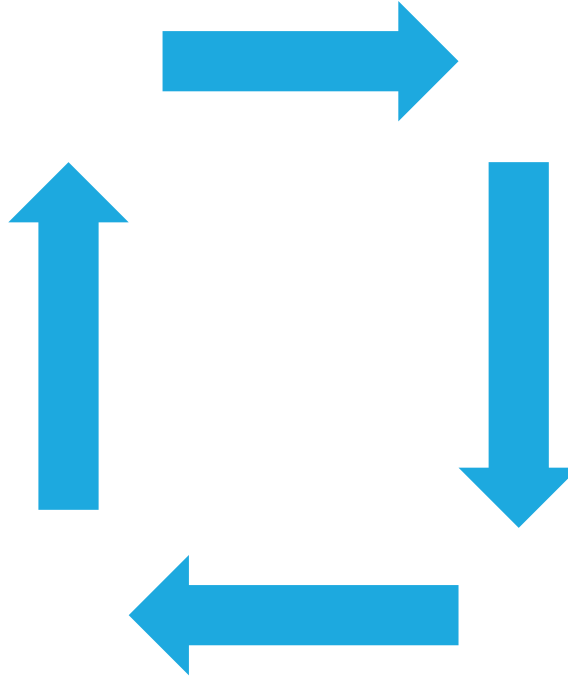
CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM000025183

The Lancium Fleet

Virtuous Cycle

Lowest Cost / Largest Opportunity Set



Cost position
strengthened by
growing and most
flexible fleet

Allows Lancium to
underwrite the
newest/best fleet

Old Gen Fleet moved to lower cost / less utilized locations

Appx11786

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM000025184

Business Model Considerations

Build/Own/Operate

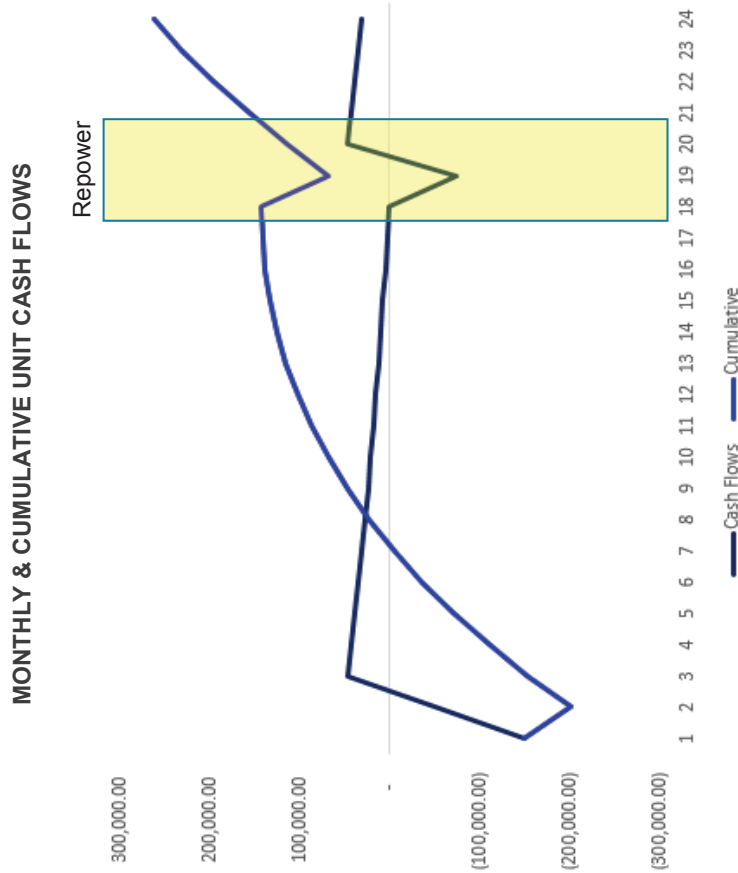
Lease/Royalty Model



ECONOMIC CONSIDERATIONS

THE LANCUM FLEX SOLUTION

- Initial units will use older generation rigs (older gen rigs are more power consumptive)
- Unit cost of <\$200k with illustrative IRR's of 50%+ (at \$7,500/BTC and \$0.025/KwH)
- If BTC prices drop drastically, hardware replaced to capitalize on rig price drop
- May be deployed "behind the meter" without incurring Transmission and Distribution Charges
- Units will need to be "repowered" with new mining equipment every 18 months
- Ample opportunity to optimize by changing fleet configurations





12

TIMELINE



Q4 2017

- File First Patents
- Build First Units & Optimize Design
- Raise \$1-2mm



Q1 2018

- Deploy 1st units at IPPs (solar & wind)
- Join CA Independent System Operator as “participating load”
- Key Strategic Hires



Q2/Q3 2018

- Expand geographical footprint (Europe)
- LOI or MOU w/ Major Utilities.
- Raise Institutional Capital & Enter into Lending Relationships.



CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025187



CEO & CO-FOUNDER

MICHAEL MCNAMARA, CFA

Michael is a private investor and is currently on the board or serving as advisor to a number of start-up firms in the consumer, energy and technology space. Previously, Michael co-founded ROR Capital, a merchant bank focused on natural resources. Over several years, ROR partnered with leading Private Equity firms to successfully restructure a number of multi-billion dollar natural resource companies.

Michael spent 10 years on Wall Street at several multi-billion hedge funds focused on natural resource and event-driven investments ultimately part of teams overseeing \$1bn+ of investments in the space. Michael began his career at PriceWaterhouseCoopers with roles in the consulting and accounting divisions. Michael graduated Magna Cum Laude from Georgetown University with degrees in Accounting and Finance and is a member of the New York Society of Security Analysts and the CFA Institute.

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025188



CO-FOUNDER

PRASHANT GUPTA, CFA, CPA (INACTIVE)

Prashant is an active private investor across multiple industries and geographies. Mr. Gupta most recently served as the Chief Financial Officer of Forbes 400 family office with significant portfolio of investments in hedge funds, real estate and gaming. Prashant oversaw all aspects of the family office's investment financing, structuring, accounting, audit, taxation and estate planning.

Prior to that, Prashant was a Senior Manager with Ernst & Young LLP, where he spent six years specializing in hedge funds, mutual funds and broker-dealers, two of which were spent in an offshore jurisdiction. Prashant received an M.S. degree in Accounting from the University of Virginia and a B.A., summa cum laude, in Economics and Accounting from Muskingum University. Prashant has been awarded an honorary Doctorate in Humane Letters by Muskingum University recognizing his distinguished career and achievements.

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025189



15

CHIEF FINANCIAL OFFICER

SR.FINANCIAL EXECUTIVE (PENDING)

Senior capital markets professional with more than 18 years of progressive experience including equity research and investing, investor relations advisory, corporate finance, and strategy consulting. Twice awarded Institutional Investor's best of the buy-side and recognized by peers and executives for insight and candor. Proven success as a buy-side investor, corporate advisor, and business developer with an extensive network of investors, research analysts, investment bankers, and corporate executives. Seasoned in counseling board of directors and C-level executives.

Currently Managing Director at a global consulting firm in the Corporate Finance and Strategic Communications segments where he has advised numerous Fortune 500 companies around key strategic initiatives including spin outs, acquisitions, capital allocation policies and IPO's.

B.A in finance from North Park University in Chicago, and earned Master's in business and administration from the Johnson School at Cornell University as well as the Smith School of Business at Queens University

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025190



CHIEF TECHNICAL OFFICER

DR. DAVID J. HENSON Ph.D., BCHE

Dr. Henson recently served as the Chief Executive Officer of Siemens Conceptual Engineering Services. He served as the Director of Emerging Technology for Siemens Oil & Gas Division with responsibility for developing and deploying Siemens based businesses & Siemens Oil & Gas provide field-proven compressors, gas and steam turbines, electric drives, motors and associated control and data systems. Siemens O&G division has approximately 16,000 employees worldwide.

Dr. Henson has more than 15 years experience in process engineering, project management, business development and commercial experience with international companies in both client and contractor roles. He has been an Executive Director at LWP Technologies Limited since January 2016. He has been the Project Director for Dominions Cove Point LNG while at IHI E&C Dr. Henson holds a PhD in chemical engineering.

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM000025191



17

CHIEF MINING OFFICER

DR. RAYMOND CLINE **Ph.D**

Dr. Cline is currently responsible for Lancium's cryptocurrency strategy and initiatives. Dr. Cline serves as a member of the IEEE Blockchain Initiative Steering Committee and is President/CEO of RWI Mining, LLC, a Blockchain mining firm.

He has participated in the development of a broad range of technologies, including high performance computing and communications technology, distance computing, collaborative computing, parallel processing, distributed computing, distributed object computing, distributed multimedia, networking protocols, and Asynchronous Transfer Mode (ATM) networking. He has applied these technologies to the development of systems to address needs in the petroleum, national security, manufacturing, and medical industries, with a specialization in recent years toward digital energy solutions (the application of dynamic, network centric operational models in the energy space).

Dr. Cline serves on the board of HARC, a research hub providing independent analysis on energy, air, and water issues to people seeking scientific answers; is a Fellow of the Borders, Trade, and Immigration Institute, a DHS Center of Excellence; and is a technical advisor to Advanced Green Computing Machines. Dr. Cline had previously led the Department of Energy funded Smart Grid Education and Training Coalition; was a member of the Executive Committee of TMAC, the Texas affiliate of the Manufacturing Extension Partnership (MEP) program of National Institute of Standards and Technology (NIST); served on the board of the Global Energy Safety Institute; and served as the Chairperson of the Cluster Development Committee of the Greater Houston Partnership Energy Collaborative.

Dr. Cline earned a PhD in Chemical Physics from the University of Illinois and a BS in Chemistry from Kent State University.

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025192



STRATEGIC ADVISOR

BRUCE RISING

Bruce Rising is formerly Strategic Business Manager within Siemens Power Systems Sales. Previously, Bruce was manager of Marketing Intelligence in Siemens' Global Strategy group. Before joining Global Strategy, he was the manager of Regulatory Affairs for Siemens Energy where he assisted the Gas Turbine Association in Washington DC as the chairman of the Environmental Affairs Committee for six years. During that time he represented the gas turbine industry on the Natural Gas Council Committee on Gas Interchangeability related to imported LNG, and the effort to delist gas turbines from the MACT ruling. He was a key author in a study requested by the Secretary of Energy to review the impact of unconventional energy supplies on the power sector.

Bruce's experience encompasses 30+ years in combustion, environmental control technology, and gas turbine technology issues. Prior to joining Siemens he was the manager of Emissions and Control Technology for RollsRoyce Allison in Indianapolis, and research scientist in Energy and Environmental R&D at Battelle Columbus Labs. He earned a BS in Chemical Physics and an MS in Fuel Science from Penn State. He is a member of the American Society of Mechanical Engineers, the Association for the Advancement of Science, the American Chemical Society and National Association of Corrosion Engineers. He holds seven patents related to energy production, emissions controls and engine diagnostics.

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00025193



STRATEGIC ADVISOR & INVESTOR

STEWART HAIR

Stewart has 3 years of Crypto Currency mining experience guiding the build-out of over 6 megawatts infrastructure at multiple locations and installing 1,000s of miners producing greater than \$20 million in value for the stakeholders. Stewart is a retired IT Infrastructure and Communications Services industry executive with 20 years of leadership and operational experience at HP, EDS, MCI Systemhouse, Telesat and most recently at M&A Technology as VP of Operations. Prior to joining the IT and Communications industry, Stewart gained extensive business experience in the manufacturing industry, overseeing day-to-day financial management while driving the exploitation of new technologies to improve corporate efficiency and profitability. In Canada where Stewart grew up after his parents emigrated from Scotland he achieved a professional accounting designation from the Canadian Society of Management Accounts and later as part of his role in the Satellite Communications Stewart received Top Secret clearance from the Canadian Federal Security authority. Stewart currently living in Texas and enjoying success as an entrepreneur helping to finance and guide start-up companies and development projects in value creation for their stakeholders.

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM000025194

From: Jay Young <Jyoung@strategicpowersolutions.net>

To: Jon Cohen <jon.cohen@lancium.com>, Michael McNamara
<michael.mcnamara@lancium.com>

CC: Todd Wilson <todd.wilson@calpinesolutions.com>

Subject: LR DEMAND RESPONSE PRESENTATION 2019.pptx

Date: Sat, 18 May 2019 14:35:09 +0000

Attachments: LR_DEMAND_RESPONSE_PRESENTATION_2019.pptx

Jon and Michael –

Attached is the information we discussed on Thursday for the DR programs in ERCOT. This covers all of the high level details. We will need to do a site and software assessment to see what is needed for telemetry, communication, etc.

CPower mentioned that the quickest they have enrolled a new participant was 35 days. So if we want to take advantage of historically high summer revenues, we need to get on this next week.

I used to work for CPower and continue to do business with them. They have a great team and are one of the largest QSE's in the nation.

Please let me know if you have any questions.

Thank you,

Jay A. Young
President
Strategic Power Solutions
214-415-5462

Bearbox v Lancium
Trial Exhibit
TX437

Appx11797

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00026299

ERCOT: LOAD RESOURCE(LR)

Generates the most Revenue

- Bid-In Day Ahead Program
- Involves additional automation
- Instantaneous Curtailment
- Can opt out as needed
 - Provides Flexibility with concern to UFR and critical production schedules.
- Provides Real-time Pricing



10

Participation: LR Program

Load Resource:

Minimum Size – 100 kW

Participation– Year Round, 24 hours per day

Enrollment– No deadline, Must be registered as a Resource with ERCOT.

Metering/Direct Load Control (DLC) – 2 second demand data, under-frequency relay. Must have Direct Load Control (DLC)

Testing– At a minimum, a 30-45 minute test event will be called once per year absent successful event deployment


11


Participation: LR PROGRAM CONT.

Notification - Customers will be notified of an event via email, phone, text and/or electronic signal

Dispatch Types - Verbal Dispatch or UFR Event
(Immediate curtailment via Under Frequency Relay (UFR) upon system frequency reaching 59.7 Hz for 20 cycles)

Settlements - Customers receive monthly payments within 30 days of the end of the month

Events - Since 2011 - 14 Total Events 4 Manual/10 UF Events



12

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Jon Cohen <jon.cohen@lancium.com>

Subject: BAML deck

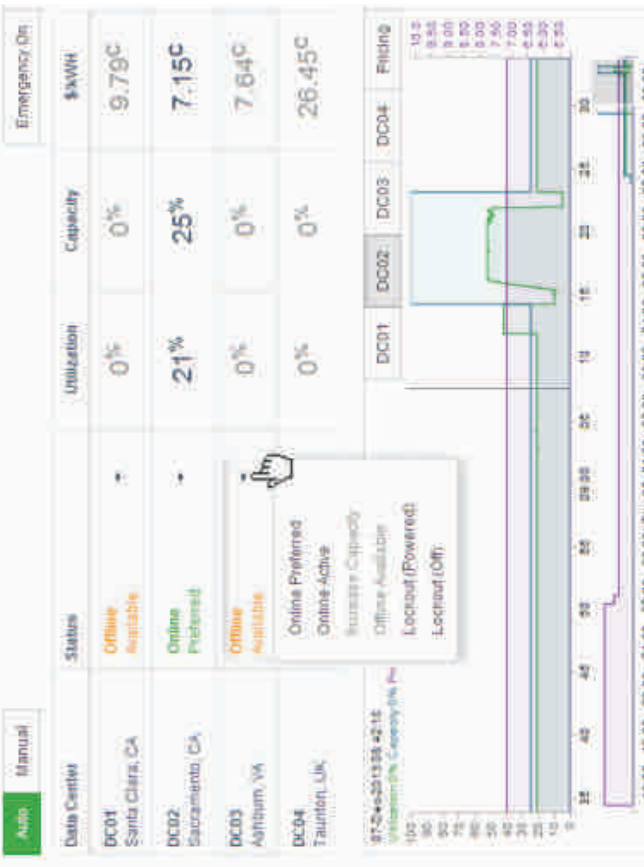
Date: Thu, 29 Mar 2018 14:52:02 -0400

Attachments: Lancium_-_BAML_April_10th.pptx

--

(917) 833-2720

Bearbox v Lancium Trial Exhibit TX462
--



RAMPING

Timing: <5 min

Operation: Remotely via NOC

Operation: Signal from ISO

Operation: Signal from Generator

From: Tim Carter <tim.carter@mp2energy.com>
To: Michael McNamara <michael.mcnamara@lancium.com>
Cc: Jay Young <Jyoung@strategicpowersolutions.net>, Rachel Arndt <rachel.arndt@lancium.com>
Subject: Countersigned EMS attached
Date: Mon, 15 Jul 2019 14:04:26 -0500
Importance: Normal
Attachments: Countersigned_EMS_Lancium_071519.pdf
Inline-Images: image001.jpg; image002.png

Please find the attached countersigned energy management services agreement. We are working with Draco to ensure this site can be started in the market as soon as possible.

Tim Carter CEM, CDSM, CEP

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1061 | C 832.684.5645 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

Bearbox v Lancium
Trial Exhibit
TX496

**EXHIBIT "A"****Transaction Confirmation #1**

This Transaction Confirmation confirms the transaction between the Parties agreed to as of the date accepted by MP2 Energy LLC ("MP2") below pursuant to and in accordance with the Energy Management Services Agreement entered into between MP2 and Lancium LLC ("Customer") dated on or about 6/14/2019 (the "Agreement") and constitutes part of and is subject to all of the terms and provisions of such Agreement. Terms used but not defined herein shall have the meanings ascribed to them in the Agreement, or to the extent not therein defined terms shall have the respective meanings set forth in the relevant Protocols, Manuals, Rules and/or Regulations governing the demand response opportunity and/or program.

Opportunity: LR**Date:** Start 9/1/2019**Term:** through 9/30/2021**Quantity:** Approximately .8 MWs to start with an expectation of growing to 7 MWs

Service Address	ESIID
6006 THOMAS RD HOUSTON, TX 77041	1008901011901056760115

Description: MP2 will offer in to the ERCOT LR market, that amount of capacity that CUSTOMER and MP2 agree reasonably complies with the LR program (the "Quantity"). Customer understands that the Quantity and the value associated therewith may change from time to time.

Economic Settlement: The revenues received relative to this Transaction Confirmation, by MP2 from ERCOT, shall be divided between the Parties upon the following schedule and is dependent on the average hourly MW volumes offered into the LR market for the applicable settlement month:

Less than 5MW: 75% to Customer and 25% to MP2


Between 5MW and 20MW: 83% to Customer and 17% to MP2

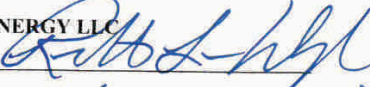
Over 20MW: 89% to Customer and 11% to MP2

The revenue sharing breakpoints shall apply to all MWs for the applicable settlement month.

Fees: Customer agrees to pay MP2 a base monthly fee in the amount of \$0 for each month during the Term. Customer authorizes MP2 to deduct the base monthly fee from the revenue accruing to Customer hereunder and MP2 will reflect the deduction on the settlement statement.

Agreed and Accepted.

LANCIUM LLC 
 By: _____
 Name: Michael McNamara
 Title: CEO
 Date: July 9th, 2019

MP2 ENERGY LLC 
 By: _____
 Name: Robert L. Douglas
 Title: EVP, Operations
 Date: 7/10/19

From: "Hunsucker, Brett" <Brett.Hunsucker@ercot.com>
To: Vitor Henrique <vitor.henrique@lancium.com>
Subject: RE: FW: Real-Time LMP
Date: Mon, 22 Apr 2019 15:49:23 -0500
Importance: Normal
Inline-Images: image001.jpg; image004.jpg

Good afternoon, Victor.

I apologize for the delay. Yes, ERCOT data such as LMPs are accessible via an API. For more information, please refer to the [EIP External Interfaces Specification v1.20L](#).

Regards,



Brett Hunsucker
Manager, ERCOT Client Services
Office: 512.248.6556 **Cell:** 971.263.8843
Brett.Hunsucker@ercot.com

Confidentiality Notice: DO NOT FORWARD. The information contained in this email message and any attached documents are privileged, confidential and intended for the addressee only. If you received this message in error then please notify the sender immediately. If the reader of this message is not the intended recipient, or an employee/agent of the intended recipient, you are hereby notified that any use, duplication, dissemination or distribution of this communication is unauthorized.

From: Vitor Henrique [mailto:vitor.henrique@lancium.com]
Sent: Monday, April 22, 2019 2:33 PM
To: info <i@ercot.com>
Cc: Hunsucker, Brett <Brett.Hunsucker@ercot.com>
Subject: Re: FW: Real-Time LMP

******* EXTERNAL email. Please be cautious and evaluate before you click on links, open attachments, or provide credentials. *******

Hello,

I haven't received any response on my request yet, could you please follow up?

Vitor Henrique

On Thu, Apr 18, 2019 at 1:01 PM info <i@ercot.com> wrote:

Dear Vitor Henrique,

Thank you for your inquiry.

Since your company is a registered Market Participant in the ERCOT Market, your request has been routed to the appropriate internal department.

LANCIUM LLC (IMRE)'s assigned Account Manager, Brett Hunsucker, will contact you regarding your request.

Bearbox v Lancium Trial Exhibit TX501
--

Regards,



Information Request Services
ERCOT Client Services
2705 West Lake Drive | Taylor, TX
www.ercot.com

From: Vitor Henrique [mailto:vitor.henrique@lancium.com]
Sent: Thursday, April 18, 2019 12:09 PM
To: info <i@ercot.com>
Subject: Real-Time LMP

******* EXTERNAL email. Please be cautious and evaluate before you click on links, open attachments, or provide credentials. *******

Hello,

Is there a way to get access to the LMP value through an API instead of the tables?

Best regards,

--

Vitor Henrique
System Engineer at Lancium
(832) 815 9054

--

Vitor Henrique
System Engineer at Lancium
(832) 815 9054

From: Raymond Cline <recline@lancium.com>

To: Michael McNamara <michael.mcnamara@lancium.com>

Subject: MP2 Demand Response

Date: Tue, 27 Aug 2019 15:07:49 -0500

Importance: Normal

Attachments: ADK_LD1_-_Lancium_-_2019-08-27.xlsx; ADK_LD1_-_Lancium_-_2019-08-26.xlsx;
ADK_LD1_-_Lancium_-_2019-08-28.xlsx

Michael,

Attached you will find three spreadsheets that calculate the demand response "revenue". Yesterday was a good day for this program. We had a call with Tim Carter to understand what they were sending to us. "Award" is the MW that ERCOT has awarded us for the hour. "LMP" is the day ahead clearance settlement price, or something like that, which is the price per MW we would receive. Award x "LMP" = dollars to us.

An important point, which didn't come across in our conversations, is that the award is essentially an obligation on our part, that we consume that amount of power that ERCOT COULD curtail. If we routinely use less than our award we could suffer a penalty. Also, if we are going to shutdown or plan to use less than our award we should notify MP2, so that they can balance accordingly.

We are working to automate processing of the spreadsheet we receive from MP2 and we will try to automate notifications if possible. This is a bit more complicated than we originally understood, but we will adapt.

Good news is that we will have received:

8/26 \$4,596.02
8/27 \$337.66
8/28 \$473.88
Total \$5,407.56

That is already more than 1/3 of a months worth of T&D charges.

Cheers,

Ray

Raymond E. Cline Jr., PhD
Chief Computing Officer

Bearbox v Lancium Trial Exhibit TX526
--

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Raymond Cline <recline@lancium.com>, Ian Rock <ian.rock@lancium.com>, Vitor Henrique <vitor.henrique@lancium.com>

Subject: Thomas Road Power

Date: Fri, 16 Aug 2019 15:29:57 -0400

Attachments: Thomas_Road_Power_Cosiderations.xlsx

As of today, we have a fixed price power contract with Calpine at Thomas Road for ATC power at ~\$34/MWh.

This is cool. We now have two revenue sources: Bitcoin mining and selling power back to grid.

I took a crack at comparing economics. We will want to watch this closely and update regularly - probably multiple times a day.

Please take a look and we can get on a call to discuss.

--

(917) 833-2720

Bearbox v Lancium Trial Exhibit TX567
--

From: David Henson <david.henson@lancium.com>
To: Michael McNamara <michael.mcnamara@lancium.com>
Cc: "Tobin, Brian" <Brian.Tobin@nexteraenergy.com>, Steve Pattyn <spattyn@gmail.com>, Jon Cohen <jon.cohen@lancium.com>, "Kelly, Kevin" <Kevin.Kelly@nexteraenergy.com>
Subject: Re: Checking / New Mexico Wind Energy Center
Date: Tue, 6 Feb 2018 18:02:13 -0600

Hi Brian, happy to discuss the technical Flex aspects. Our power management platform takes a variety of signals including grid telemetry, nodal economic real time data to derive a shaped load response in the minute response timeframe, 200Kw to 1 MW for the nominal 1 MW units. We are also developing frequency response characteristics within that control range that may be of interest. Our target 'on line' time per machine is in 10 minute (plus 2 minutes spool time). Those metrics are approximately the same at machine level or asset level(1MW Flex box level)

Regards
David

David Henson
Lancium

On Feb 6, 2018, at 3:59 PM, Michael McNamara <michael.mcnamara@lancium.com> wrote:

Hi Brian,

Once we get some information on the farm's capacity factor, we'll work with you to tailor a solution including some mix of our Core and Flex units. We would like to find a way for Core units to run as much as possible (90pct+). The Flex units, on the other hand, are designed to ramp up and down often. Flex units can ramp up to full capacity and down to 0 load within a 10 minute window. We think we can get that window down to 5 minutes.

I've CC'd our technical head here, David Henson, who can provide more details as needed. As always, we can hop on a call at any time to talk in more detail. Just let us know.

Sent from my iPhone

On Feb 6, 2018, at 4:42 PM, Tobin, Brian <Brian.Tobin@nexteraenergy.com> wrote:

Hi Steve,

We are still working through our structure and are making progress. I have a question, technically, how would the servers shutdown before power comes back in from the grid when the wind stops blowing. Also, what if

Bearbox v Lancium Trial Exhibit TX594
--

From: Vitor Henrique <vitor.henrique@lancium.com>
To: Deon Wyatt <deon.wyatt@mp2energy.com>
Subject: Re: ADK_LD1 - Lancium LR Awards.xlsx
Date: Wed, 4 Sep 2019 10:10:22 -0500
Inline-Images: image001.jpg; image002.png

Hello Deon,

Any news on today's file? I automated our dashboard with the input file, so we can track it on our operational dashboard.

Best regards,

Vitor Henrique

On Tue, Sep 3, 2019 at 8:50 AM Deon Wyatt <deon.wyatt@mp2energy.com> wrote:

Please see attachment.

Deon Wyatt

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1063 | C 832.917.4570 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Deon Wyatt <deon.wyatt@mp2energy.com>
Sent: Sunday, September 01, 2019 3:09 PM
To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com; vitor.henrique@lancium.com

Bearbox v Lancium Trial Exhibit TX595
--

Cc: MP2 Asset Operations Desk <operations@mp2energy.com>
Subject: RE: ADK_LD1 - Lancium LR Awards.xlsx

Please see attachment.

Deon Wyatt

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1063 | C 832.917.4570 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Deon Wyatt <deon.wyatt@mp2energy.com>
Sent: Saturday, August 31, 2019 2:36 PM
To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com; vitor.henrique@lancium.com
Cc: MP2 Asset Operations Desk <operations@mp2energy.com>
Subject: RE: ADK_LD1 - Lancium LR Awards.xlsx

Please see attachment.

Deon Wyatt

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1063 | C 832.917.4570 | www.MP2Energy.com



Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Deon Wyatt <deon.wyatt@mp2energy.com>
Sent: Friday, August 30, 2019 2:54 PM
To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com; vitor.henrique@lancium.com
Cc: MP2 Asset Operations Desk <operations@mp2energy.com>
Subject: RE: ADK_LD1 - Lancium LR Awards.xlsx

Please see attachment.

Deon Wyatt

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1063 | C 832.917.4570 | www.MP2Energy.com



Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Deon Wyatt
Sent: Thursday, August 29, 2019 2:40 PM
To: 'ian.rock@lancium.com' <ian.rock@lancium.com>; 'recline@lancium.com' <recline@lancium.com>; 'thomas.salvatore@lancium.com' <thomas.salvatore@lancium.com>; 'vitor.henrique@lancium.com' <vitor.henrique@lancium.com>
Cc: MP2 Asset Operations Desk <operations@mp2energy.com>
Subject: Revised ADK_LD1 - Lancium LR Awards.xlsx

Revised.

Deon Wyatt

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1063 | C 832.917.4570 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

From: Deon Wyatt
Sent: Wednesday, August 28, 2019 1:48 PM
To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com; vitor.henrique@lancium.com
Cc: MP2 Asset Operations Desk <operations@mp2energy.com>
Subject: RE: ADK_LD1 - Lancium LR Awards.xlsx

Deon Wyatt

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1063 | C 832.917.4570 | www.MP2Energy.com



 Please consider the environment before printing this email.

DISCLAIMER:

This communication, along with any documents, files or attachments, is intended only for the use of the addressee and contains privileged and confidential information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of any information contained in or attached to this communication is strictly prohibited. If you have received this message in error, please notify the sender immediately by email reply and destroy the original communication and its attachments without reading, printing or saving in any manner.

--

Vitor Henrique
System Engineer at [Lancium](#)
(832) 815 9054

External Sender: Use caution with links/attachments.

Hi Todd,

Do you have any intro material on participating in EROT's ERS program? We think our load is well suited, but were curious as to what the process and requirements are.

Also we've been working with Centerpoint on looking at upgrade options for Thomas Rd, but its taking longer than anticipated. Will keep you posted on that

Thanks,

Jon

COMPANY CONFIDENTIALITY NOTICE: The information in this e-mail may be confidential and/or privileged and protected by work product immunity or other legal rules. No confidentiality or privilege is waived or lost by mis-transmission. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination, or copying of this e-mail and its attachments, if any, or the information contained herein is prohibited. If you have received this e-mail in error, please immediately notify the sender by return e-mail and delete this e-mail from your computer system.

--

(917) 833-2720

COMPANY CONFIDENTIALITY NOTICE: The information in this e-mail may be confidential and/or privileged and protected by work product immunity or other legal rules. No confidentiality or privilege is waived or lost by mis-transmission. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination, or copying of this e-mail and its attachments, if any, or the information contained herein is prohibited. If you have received this e-mail in error, please immediately notify the sender by return e-mail and delete this e-mail from your computer system.

BEGIN:VCARD

VERSION:2.1

N;LANGUAGE=en-us:Young;Jay

FN:Jay Young

ORG:Strategic Power Solutions

TITLE:President

TEL;WORK;VOICE:(214) 415-5462

X-MS-OL-DEFAULT-POSTAL-ADDRESS:0

EMAIL;PREF;INTERNET:jyoung@strategicpowersolutions.net

X-MS-OL-DESIGN;CHARSET=utf-8:<card

xmlns="http://schemas.microsoft.com/office/outlook/12/electronicbusinesscards" ver="1.0" layout="left" bgcolor="ffffff"><fld xmlns="" prop="name" align="left" dir="ltr" style="b" color="000000" size="10"/><fld xmlns="" prop="org" align="left" dir="ltr" color="000000" size="8"/><fld xmlns="" prop="title" align="left" dir="ltr" color="000000" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="telwork" align="left" dir="ltr" color="d48d2a" size="8"><label align="right" color="626262">Work</label></fld><fld xmlns="" prop="email" align="left" dir="ltr" color="d48d2a" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/><fld xmlns="" prop="blank" size="8"/></card>

REV:20190514T142802Z

END:VCARD

BEGIN:VCARD

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Jay Young <Jyoung@strategicpowersolutions.net>

Subject: Re: LR DEMAND RESPONSE PRESENTATION 2019.pptx

Date: Sat, 18 May 2019 12:57:01 -0400

Attachments: Lancium_Introduction_and_Overview_-_May_2019.pdf

Jay,

Here is some introductory information on us. As I mentioned, our data centers are co-located directly at wind project substations and generally sit "behind-the-meter". We can pick up and drop 95% of our entire load in under 5 minutes (actually under 1 min) and our load follows the generation profile of the wind facility. We get first call on all power out of the wind facility with the exception that we turn down when prices exceed \$75/MWh.

Our first facility is 36 MW near Lubbock. We will actually have an AEP subtractive meter and ERCOT will be able to monitor our consumption. If we could qualify for LR it would be awesome!

Lets chat on Monday?

On Sat, May 18, 2019 at 12:44 PM Michael McNamara <michael.mcnamara@lancium.com> wrote:
Jay,

Do you have 5 min to talk over the phone? Wanted to run an idea by you.

On Sat, May 18, 2019 at 9:34 AM Jay Young <Jyoung@strategicpowersolutions.net> wrote:
I have a call with the QSE Monday morning to start the process. I will follow up after that call with steps to quickly get this going.

Sent from my iPhone

On May 18, 2019, at 11:31 AM, Michael McNamara <michael.mcnamara@lancium.com> wrote:

Ok - what do we do next?

On Sat, May 18, 2019 at 7:35 AM Jay Young <Jyoung@strategicpowersolutions.net> wrote:

Jon and Michael –

Attached is the information we discussed on Thursday for the DR programs in ERCOT. This covers all of the high level details. We will need to do a site and software assessment to see what is needed for telemetry, communication, etc.

CPower mentioned that the quickest they have enrolled a new participant was 35 days. So if we want to take advantage of historically high summer revenues, we need to get on this next week.

Bearbox v Lancium Trial Exhibit TX740
--

I used to work for CPower and continue to do business with them. They have a great team and are one of the largest QSE's in the nation.

Please let me know if you have any questions.

Thank you,

Jay A. Young

President

Strategic Power Solutions

214-415-5462

--

(917) 833-2720

--

(917) 833-2720

--

(917) 833-2720



Appx12397

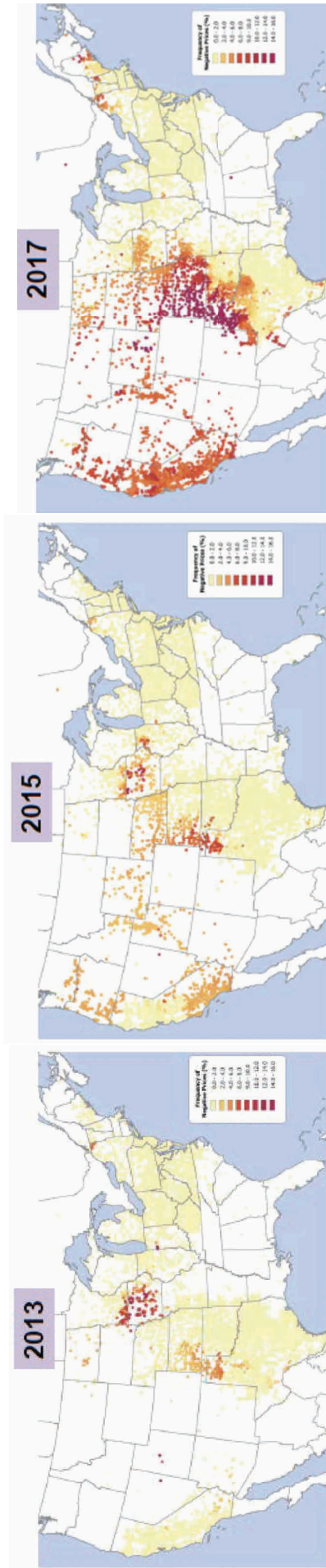
Exhibit A
Trial Exhibit
TX741

LANCIUM00035220

CONFIDENTIAL - ATTORNEY'S EYES ONLY

TOO MUCH GREEN POWER IS OVERWHELMING THE GRID

Incidences of Negative Priced Power



Source: National Renewable Energy Laboratory (NREL)



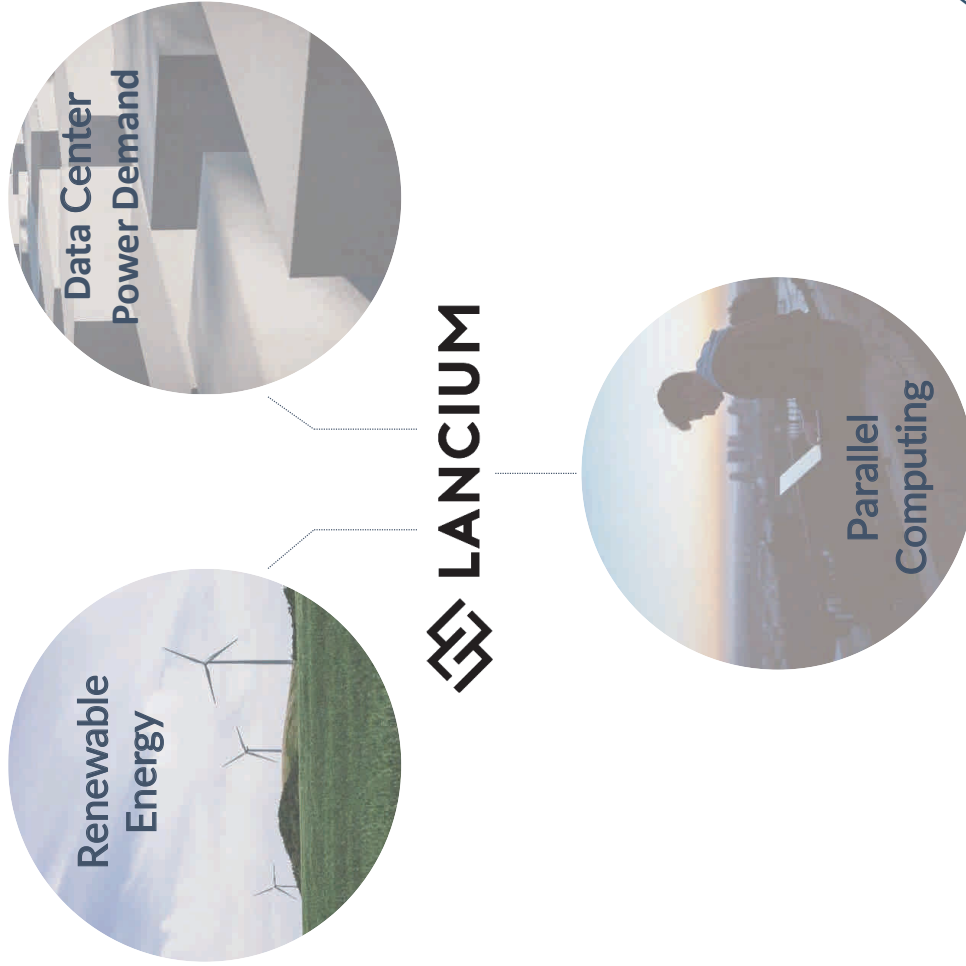
DISTRIBUTED COMPUTING CAN FIX IT

LANCIUM00035222

CONFIDENTIAL - ATTORNEY'S EYES ONLY

INTRODUCTION

- Lancium is a new company that sits at the confluence of mega trends involving computing and energy
- Lancium's proprietary solution allows specialized data centers to consume power directly from renewable energy facilities
- Lancium's innovations (30+ patents in process) position the company as the lowest cost provider of distributed computing



CURRENT MEGA TRENDS IN POWER AND COMPUTING



MOVE TO 100% RENEWABLE GRID

- Renewable generation's share of the power grid will continue to grow
- Zero variable cost leads to increasing frequency of negative priced electricity



GROWTH OF PARALLEL COMPUTING

- Exploding demand for perfectly parallel applications
- These applications (ML, AI and simulations) are unaffected by interruptions



DATA CENTER POWER DEMAND

- Steadily increasing demand for more power at ever increasing power densities
- The End of Moore's Law makes electricity the key cost driver

BIOGRAPHIES



Michael McNamara
Co-Founder and Chief Executive Officer

Entrepreneur and private investor with deep experience in the power, energy and technology industries. Previously, Michael covered energy and resources at a number of multi-billion dollar buy side institutions. Michael graduated from Georgetown University magna cum laude with degrees in Finance and Accounting.



Raymond Cline, Ph.D.
Co-Founder and Chief Computing Officer

Dr. Cline has over 38 years of experience in high performance computing, distributed computing, and information technology. He has held research and senior management level positions at Sandia National Laboratories, SAIC, EDS, HP, University of Houston, and CGI. Dr. Cline has a PhD in Chemical Physics.



Jon Cohen
Chief Financial Officer

Highly experienced power and utilities expert with over twenty years experience in the financial services industry. Jon was previously an Investment Banker at Credit Suisse. Jon most recently covered the Power and Utilities sector at Millennium Management.



Joining June, 2019

Andrew Grimshaw, Ph.D.
Chief Software Architect

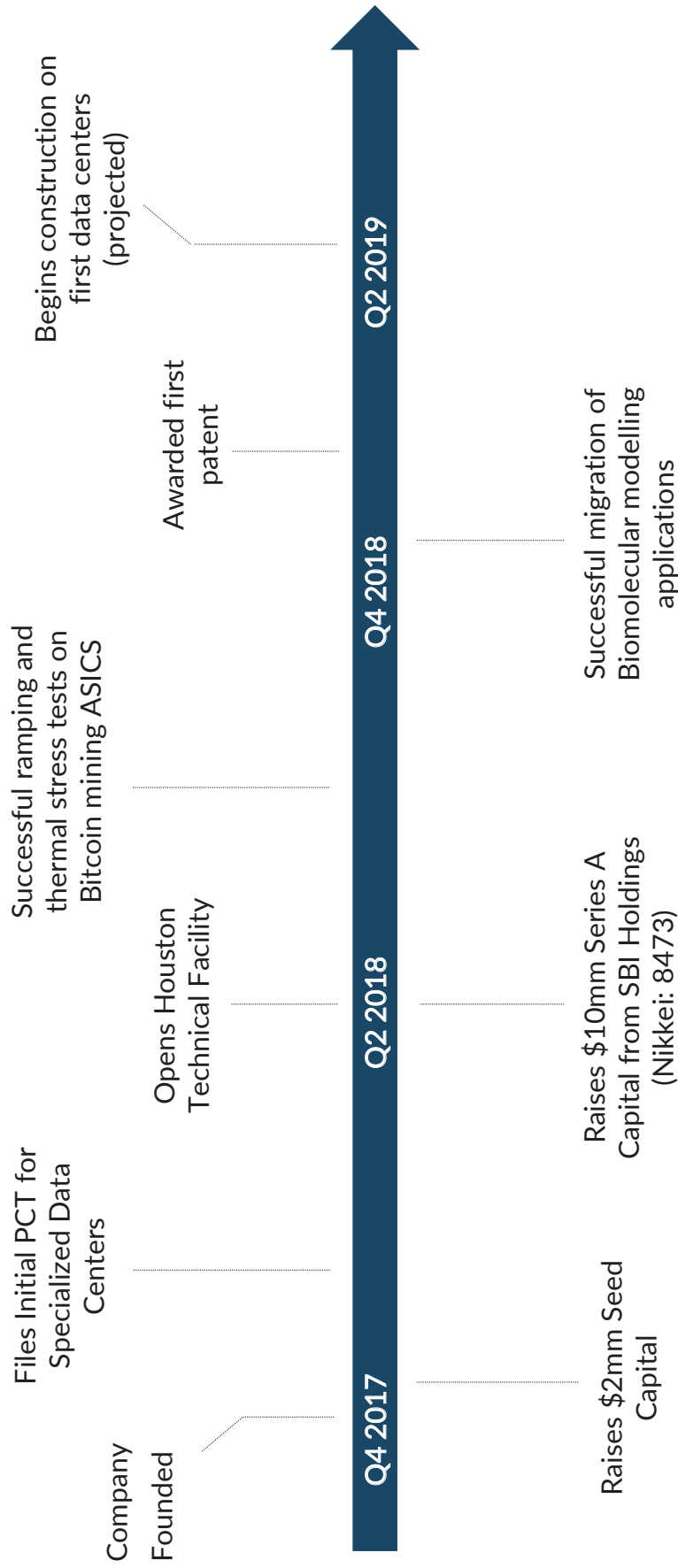
Professor of Computer Science, UVA (on leave). He is the chief designer and architect of Mentat and Legion. In 1999 he co-founded Avaki Corporation, and served as its Chairman and Chief Technical Officer, until 2005 when Avaki was acquired by Sybase.



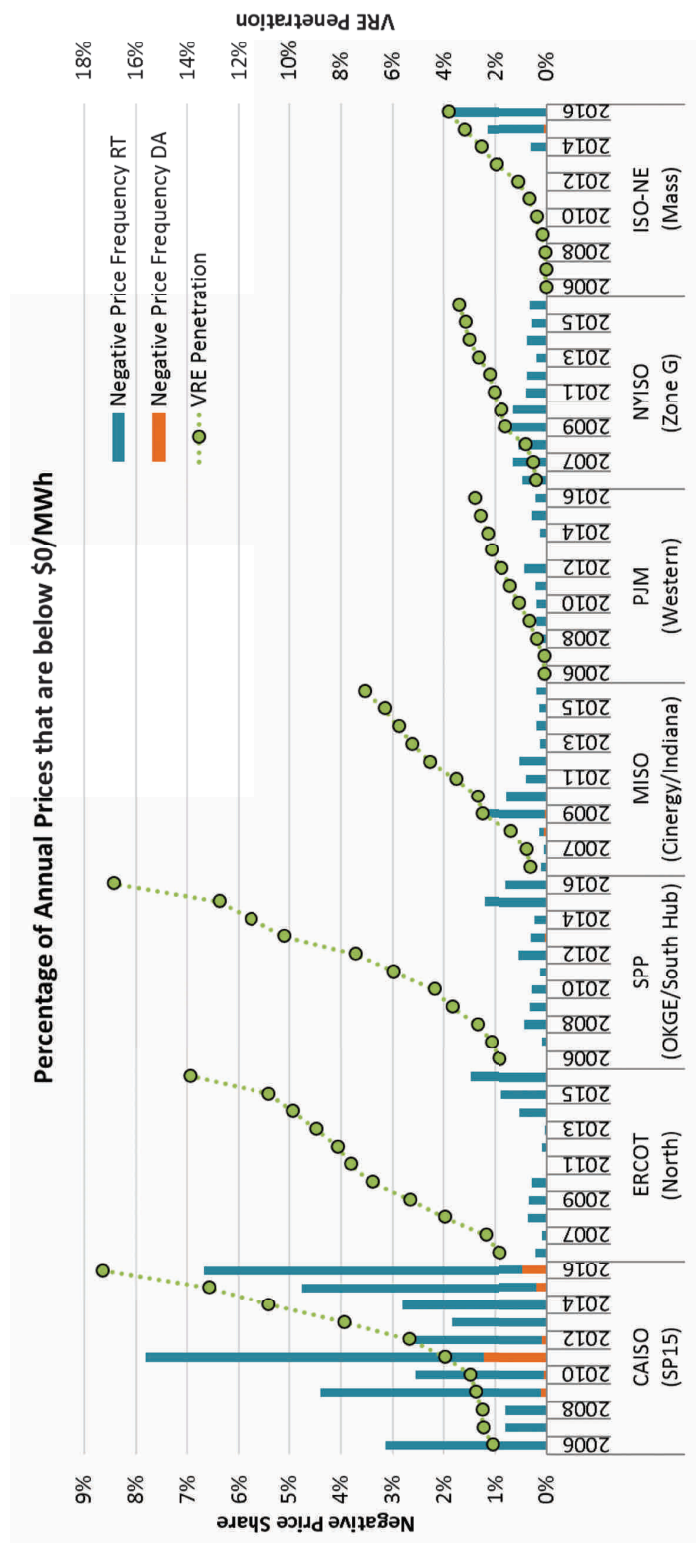
Eric Kutscha
EVP - Operations

Eric has more than 30 years' experience leading electrical engineering and project management of electrical power and control projects. Eric was most recently at Rockwell Automation Intelligent Packaged Power after completing more than 35 years in various sales, engineering, and leadership roles at Siemens.

COMPANY HISTORY AND TIMELINE



THE PROBLEM



Source: UC Berkeley

DISTRIBUTED COMPUTING IS THE ANSWER

Bring the solution directly to the problem



MORE TRANSMISSION?

- Too expensive
- Cannot get permitted
- No near term projects on horizon in major renewable regions



BATTERY OR STORAGE?

- Currently too expensive
- Shifts availability but not incremental demand
- Price spread in wind corridor does not support construction



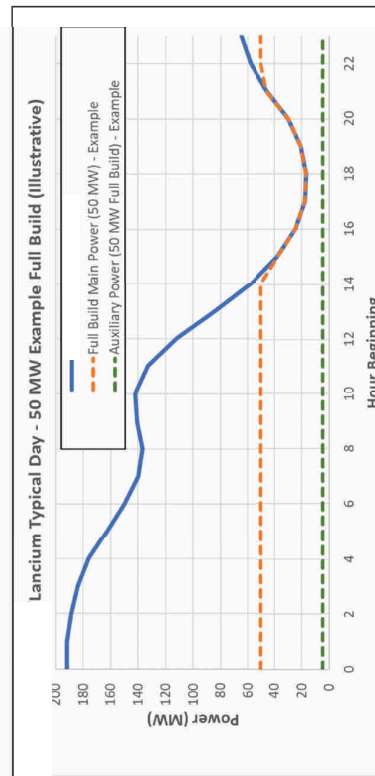
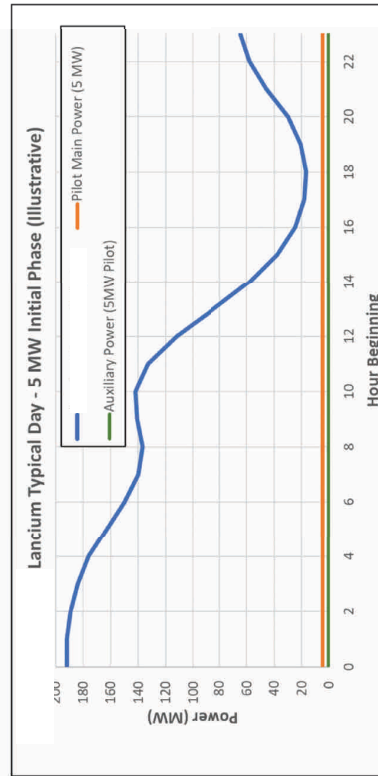
COMPUTE AT THE SOURCE

- Consumes excess power directly from the facility
- Ramps up and down based on power availability and price
- Perfectly suited for parallel computing applications

HOW CAN DISTRIBUTED COMPUTING WORK USING ONLY WIND POWER?

Uptime?	Target specific applications and control server power rapidly (utilize intermittent power availability)
Lost Work?	Checkpoint application status and move jobs as needed (no redundancy required)
Power Surges?	Use software to dynamically control servers (no UPS needed)
Temperature Control?	Only run when power is available and inexpensive (no HVAC required)
Backup Power?	Not necessary - Lancium computing does not require grid power so no Transmission & Distribution charges

LANCIUM'S BENEFIT TO THE OPERATOR AND THE GRID



Lancium power consumption follows the generation profile of wind projects

Data centers spin up and down rapidly to match load with power availability and price

Lancium will spin down during periods of high priced power to enable:

- Generator to maximize profit
- Stronger, more resilient Grid
- Reduced data center thermal stress

CHALLENGES ADDRESSED: LANCIMUM MOAT

Multi-disciplined engineering approach

- Fundamental rethinking of data center design, power market structure and computing paradigms
- Addressed via engineering advancements and in-house innovations



Regulatory and transaction structure



Electrical engineering including power factor and harmonics management



Software development and individual server control



Thermal control and heat resistance insights



Appx12408



LANCIUM COST ADVANTAGES

Appx12409

CAPITAL COSTS:

- Very inexpensive to site and build
- Minimal real estate value in Wind Corridor
- Entirely air cooled with no expensive HVAC system
- No redundant systems required

OPERATING COSTS:

- World's cheapest power with no transmission and distribution charges
- Excellent Power Use Effectiveness (PUE) with limited parasitic loss
- Flexible clocking ability

LANCIUM COMPETITIVE ADVANTAGES

- Exclusive ability to utilize exceptionally cheap but intermittent renewable power
- In excess of 30 patents filed or in process
- Enables more renewable generation

Appx12410

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00035233

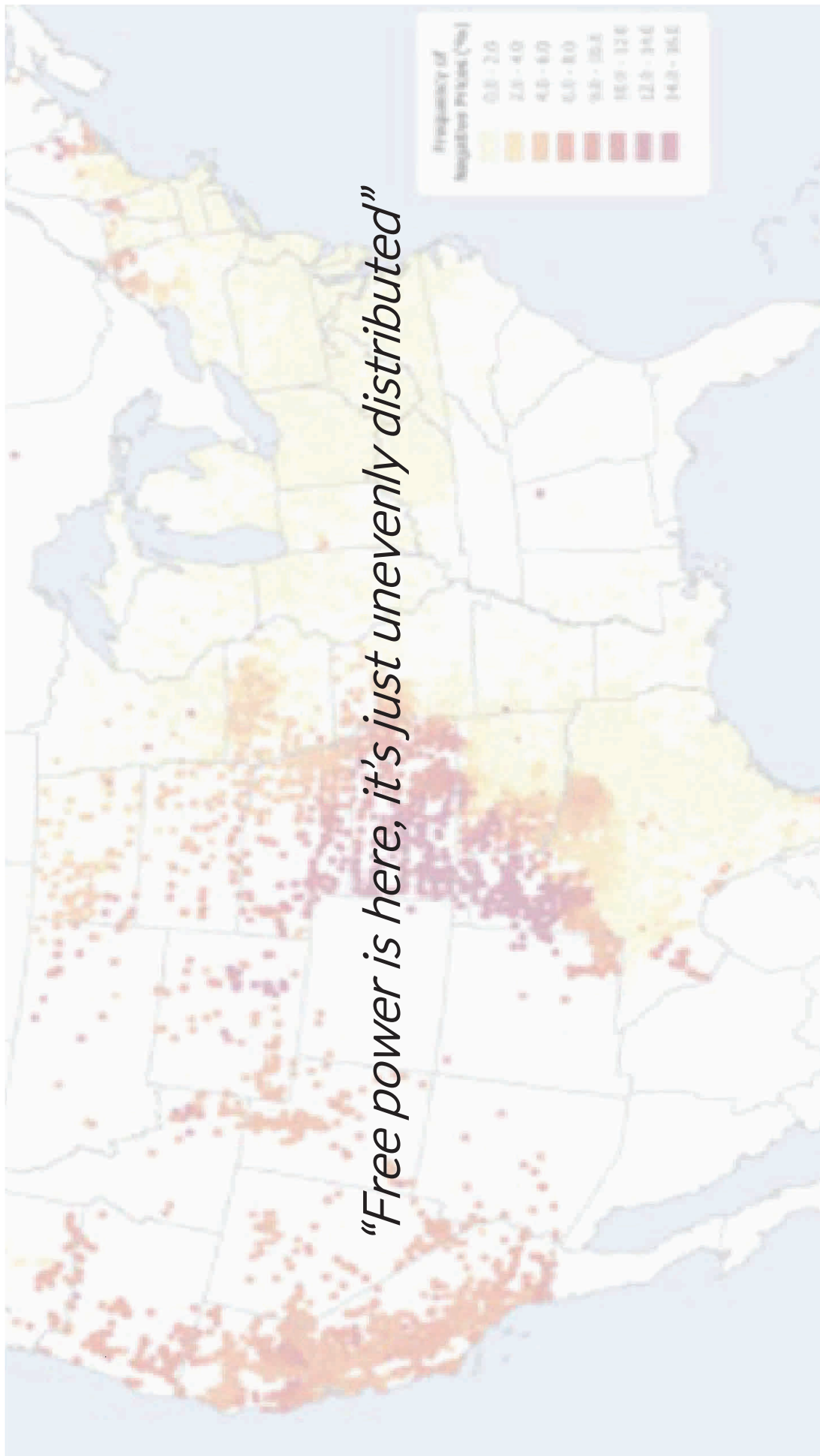


15
LANCIUM00035234

GO TO MARKET STRATGEY

Appx12411

CONFIDENTIAL - ATTORNEY'S EYES ONLY



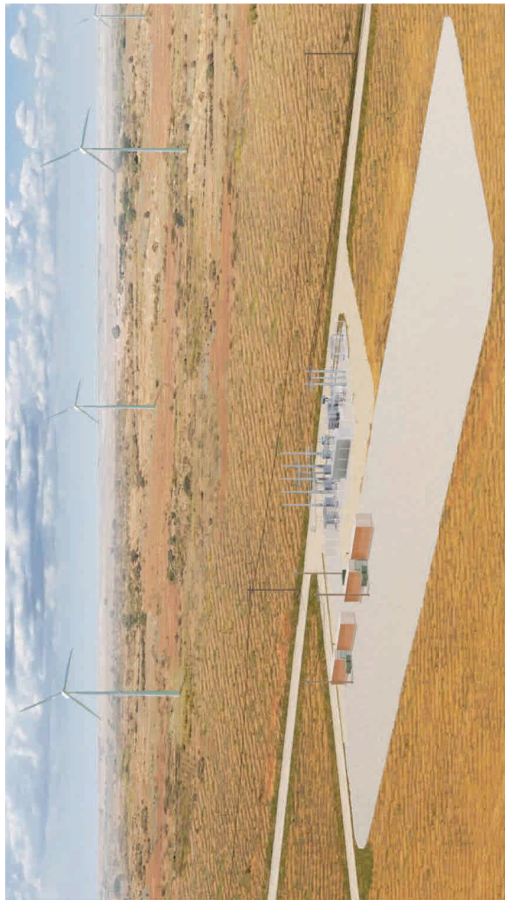
CORPORATE STRATEGY

Capture the Potential Market	Lancium has executed term sheets with four of the world's largest power producers covering 100MW+ of power
Move Fast...	The company is proceeding with pilot stage projects at each power producer to solidify first mover and power price advantage
...but in a Staged Manner	Pilot stage projects require limited capital with Lancium retaining option to commence commercial stage expansion
Up-Sell Rack Space	The data centers will initially be filled with Crypto mining ASICs and backfilled with High Value distributed computing over time
Target Long-Term Deals	Lancium plans on signing long term deals for distributed computing with customers in Industry, Government and Academia

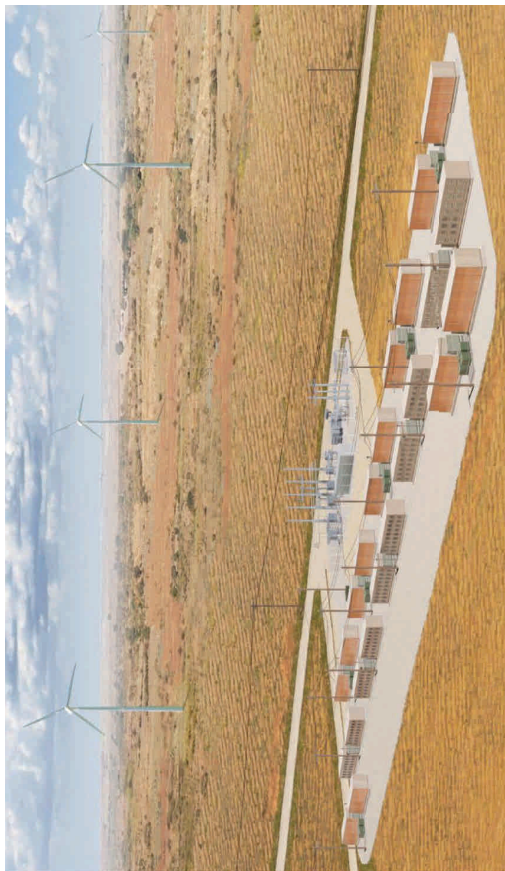
STAGED GROWTH: DATA CENTER LEVEL

Grow footprint to match demand and financing availability

PILOT STAGE: 6MW



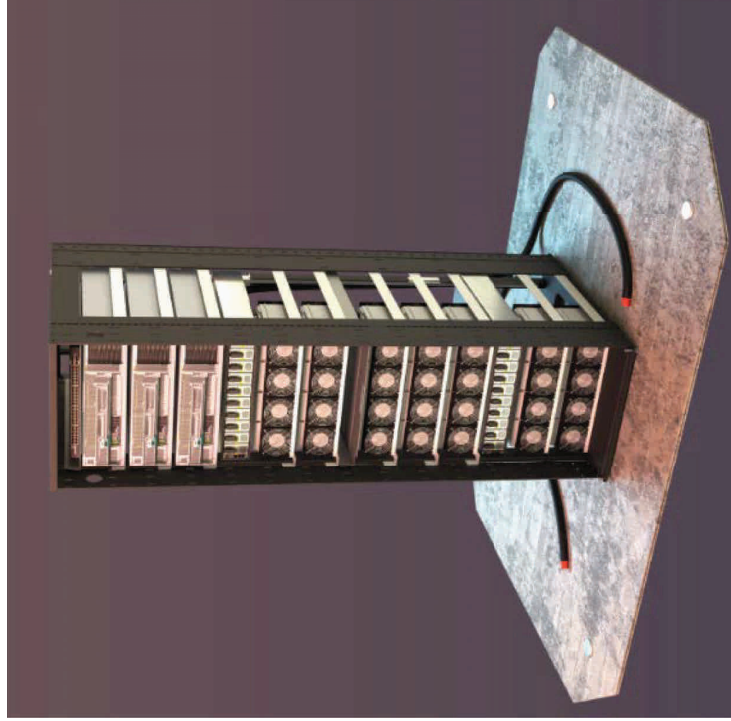
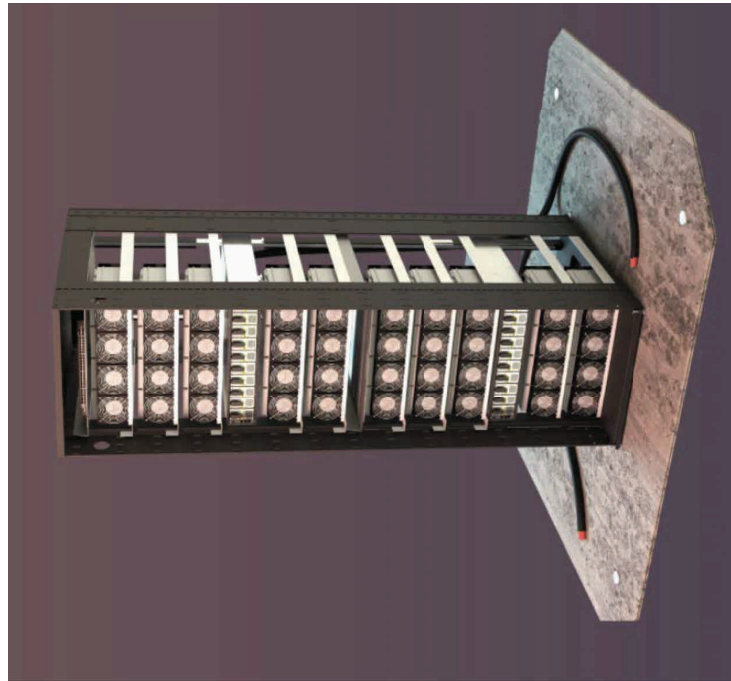
COMMERCIAL STAGE: 35MW



Appx12414

STAGED GROWTH: RACK LEVEL

Distributed computing hardware will displace Crypto ASICs over time



Appx12415

CONFIDENTIAL - ATTORNEY'S EYES ONLY



Appx12416

Requires no sales team and provides immediate revenue

Extremely cheap to install on per KW basis

Crypto ASICs are durable and heat resistant

Requires limited data center fabric and network

Bitcoin mining provides steady margin for those with very low priced power

MARKET STRATEGY FOR CRYPTO RACK SPACE

BULL MARKET

(high ratio of block reward to hash rate)

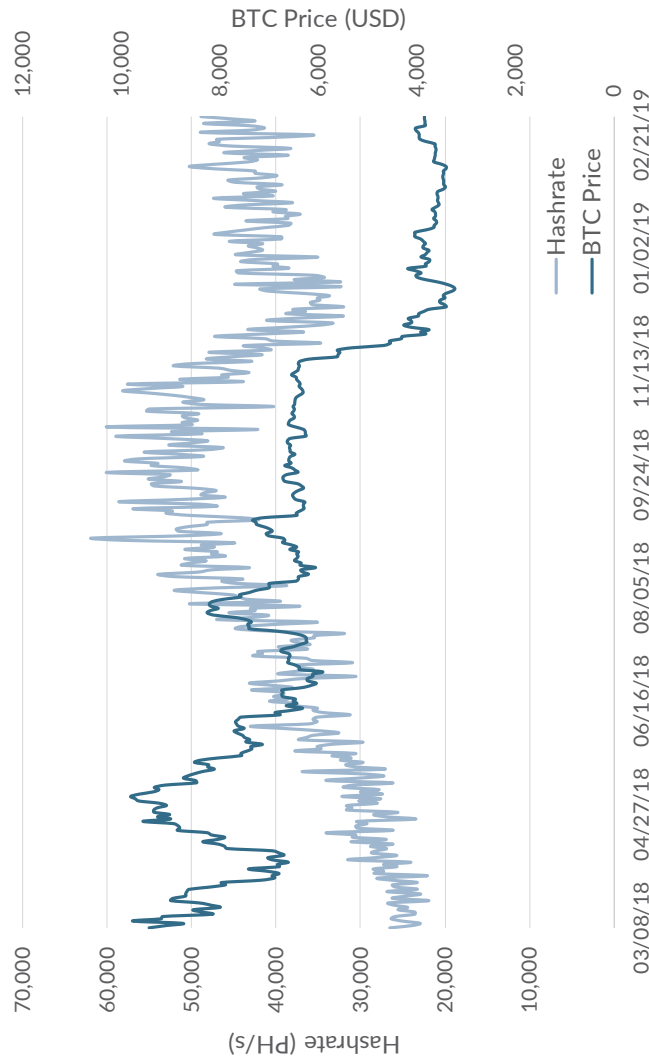
- Enter into multi-year hosting arrangements on existing or new build rack space
- Run legacy merchant machines or bring machines "out of retirement"

BEAR MARKET

(low ratio of block reward to hash rate)

- Purchase machines at very low or scrap value to capitalize on Lancium energy price advantage
- Enter into Vendor Finance arrangements with OEMs

BITCOIN MINING ECONOMIC CONSIDERATIONS



Extremely rational commodity business

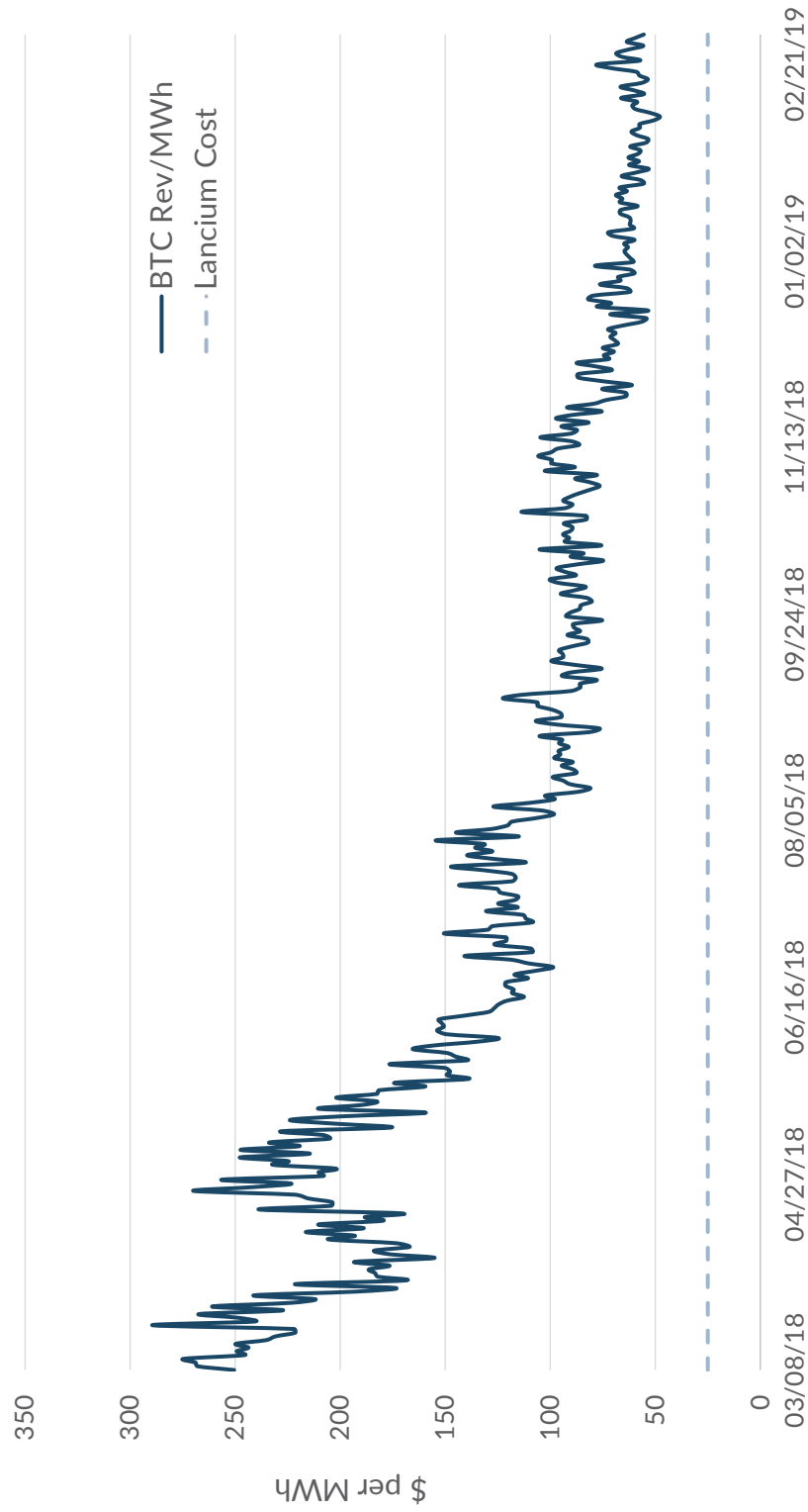
Due to the End of Moore's Law, limited availability to improve ASICs

Operating cost (electricity) is now the key major variable

Bitcoin mining profitability is driven by Bitcoin price, Hash Rate and electricity

Recently, hash rate has been extremely responsive to Bitcoin price moves which creates embedded margin if one has access to very cheap electricity

BTC MINING REVENUE (S9): EMBEDDED MARGIN



Appx12419

AFTER BITCOIN MINING? THE NEXT APPLICATIONS

	Description	Examples
High Throughput Computing, <i>(Tightly Coupled)</i> High Performance Computing	Highest value computing for major Government, Industrial and Academic research	Fluid Dynamics, Large Machine Learning Studies, Weather Modelling
High Throughput Computing, <i>(Loosely Coupled)</i>	Parallel computing that does not require expensive and complex networking	Monte Carlo Modelling, Small Machine Learning Studies, Image Rendering
Low Value Computing	Bitcoin mining will be deployed first due to ease and low capital cost	Proof-of-Work

TOTAL ADDRESSABLE MARKET

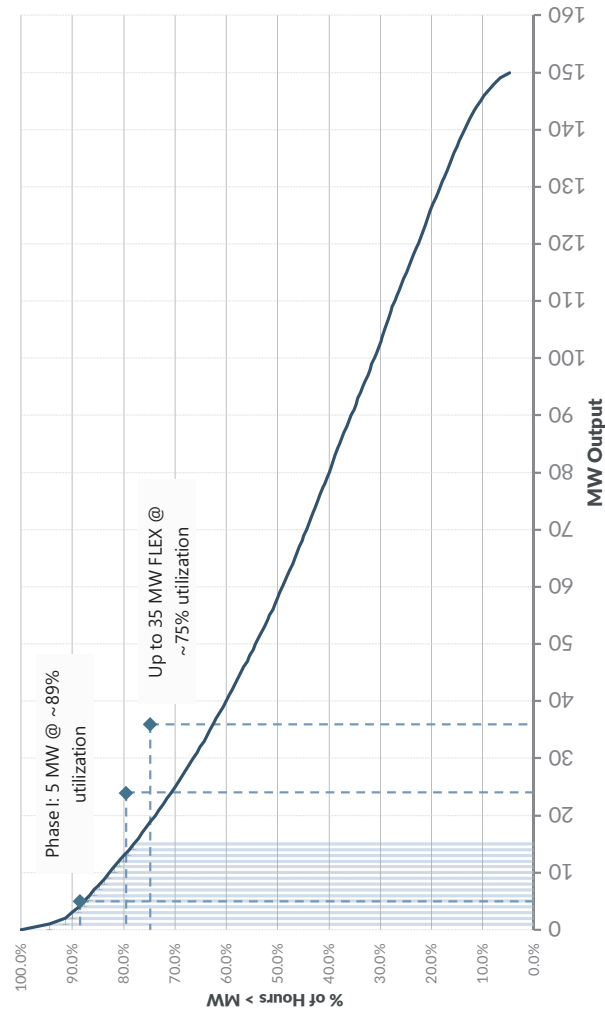
	Total Addressable Market (USD)	Highly Suited to Lancium %	Highly Suited to Lancium (USD)
High Performance Computing	\$10 B	30%+	\$3 B
Cloud and Computing Industries	\$20 B	25%+	\$5 B
Hyperscale and Consumer Internet	\$20 B	25%+	\$5 B
Low Value Computing	\$3 B	100%+	\$3 B

Source: NVIDIA, Lancium internal estimates

CONFIDENTIAL - ATTORNEY'S EYES ONLY

WHY WIND? THE DISTRIBUTION OF POWER GENERATION

POWER DURATION CURVE



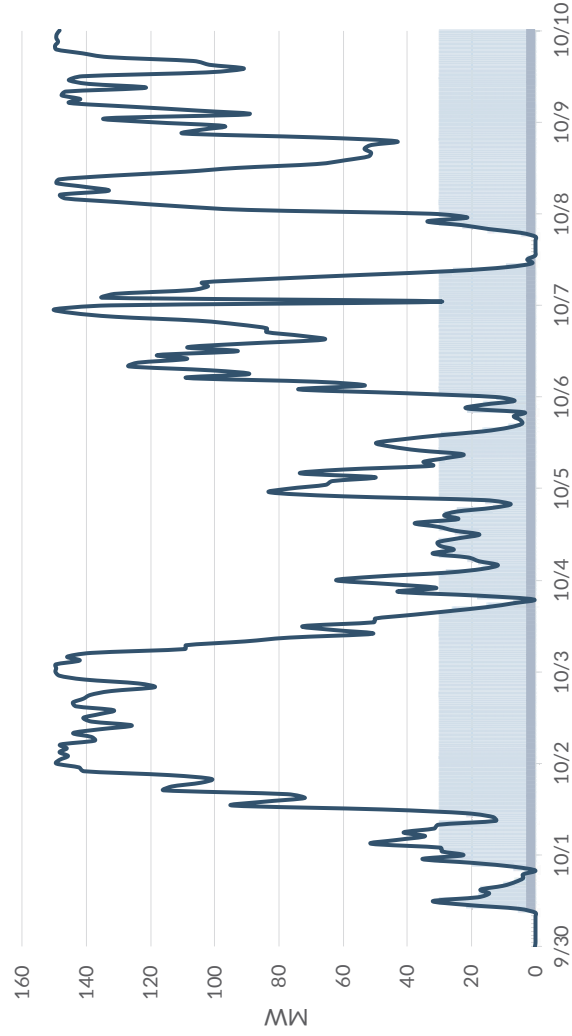
Wind production distribution allows for a tiered data center installation

Lancium deal arrangements call for “first call” on power with high priced hours retained by the generator

Some power is nearly always available to Lancium data centers

Available power is routed to most valuable computing hardware first

WHY WIND? THE DISTRIBUTION OF POWER GENERATION



Low value computing (light blue) will serve as a buffer and absorb the majority of wind power variability

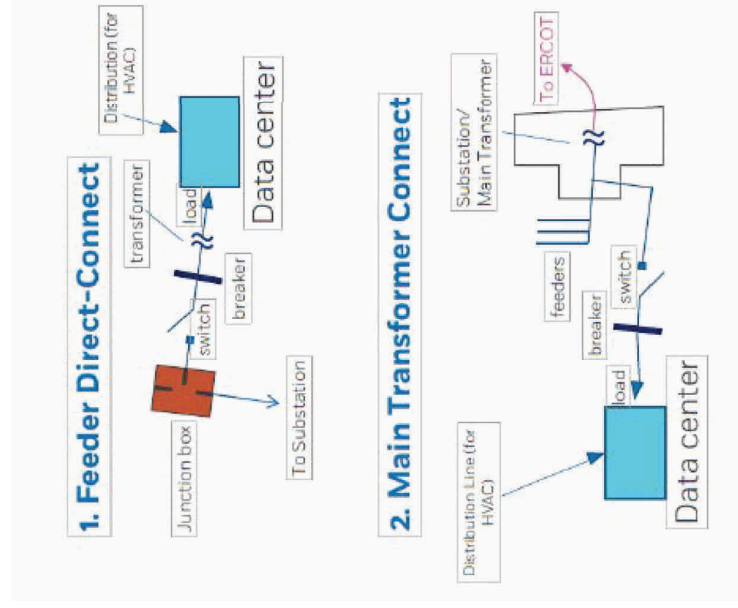
Lancium has proven the resiliency of bitcoin mining hardware to constant and fast ramping

Higher value computing (gray) will receive nearly constant power and will see rare and short periods of downtime

WIND ENGINEERING CONSIDERATIONS

Lancium has developed several interconnection options to fit the needs of its wind partners

- Lancium has worked on two potential options: (1) Feeder Direct-Connect or (2) Main Transformer Connect
- Regardless of approach, Server Facility would be behind a breaker-switch and/or other equipment to enable isolation
- Isolation equipment to be in complete control of wind project (except in cases of curtailment for safety purposes by Lancium)



The World's Only Truly Green Computing

"Run cycles at Lancium and help save the planet."

Appx12426

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LNCIUM00035249

MICHAEL MCNAMARA, Michael McNamara, Storms

Contributors:



Name: MICHAEL MCNAMARA
Email: mcnamarm@hotmail.com



Name: Michael McNamara
Phone: [REDACTED]



Name: Storms
Phone: +1 (985) 377-6257

2019-05-04 04:57:43 +0000

Storms
+1 (985) 377-6257

S

Storms

2019-05-05 20:00:52 +0000

Michael McNamara
[REDACTED]

Storms, great to meet you at the conference

This is me:

2019-05-05 20:00:53 +0000

<https://www.linkedin.com/in/michael-mcnamara-1055211>

M

2019-05-05 20:04:41 +0000

Storms
+1 (985) 377-6257

Same here, Michael. I'm not on LinkedIn, but you've got my personal #.

S

I'll put some feelers out to some of my PM friends this week about what we talked about Fri night. Tty soon.

2019-05-05 20:06:45 +0000

Michael McNamara
[REDACTED]

Thanks - that's great

I also think your boxes may have some benefits vs the ones we are doing with JB driver

Lots of stuff to collaborate on

M

2019-05-05 23:43:04 +0000

Storms
+1 (985) 377-6257

Absolutely. I can send you specs on the boxes/PDUs/logic design - what's your email?

S

Bearbox v Lantium
Trial Exhibit
TX742

2019-05-05 23:45:00 +0000

Michael McNamara
[REDACTED]

Michael.mcnamara@lancium.com M

2019-05-05 23:49:01 +0000

Storms
+1 (985) 377-6257

S [thumbs up]

2019-05-08 17:45:41 +0000

Michael McNamara
[REDACTED]

Storms, can you send me those box design specs please! M

2019-05-08 20:31:39 +0000

Storms
+1 (985) 377-6257

S Yep! I'll put it together when I get home tonight

2019-05-08 20:31:55 +0000

Michael McNamara
[REDACTED]

Thank you, sir M

2019-05-09 14:44:52 +0000

Storms
+1 (985) 377-6257

S Redoing one of the spec sheets for the newer Whatsminer models then emailing over to you

2019-05-09 14:49:50 +0000

Michael McNamara
[REDACTED]

Great - thanks

2019-05-09 15:51:01 +0000

Also, have you ever looked at building a GPU box? M

2019-05-09 15:52:22 +0000

Storms
+1 (985) 377-6257

S I haven't - but conceptually it's the same. Less electrical load density and less CFM exhaust requirements.

From: Michael McNamara <michael.mcnamara@lancium.com>
To: Justin Nolan <justinhnolan@gmail.com>
Cc: Jon Cohen <jon.cohen@lancium.com>, jamie@cormint.com
Subject: Re: Meeting tomorrow
Date: Mon, 6 May 2019 14:47:12 -0400
Attachments: Lancium_Standard_Mutual_NDA_.doc; Lancium_Introduction_and_Overview_-_April_2019.pdf

Jamie,

Looking forward to meeting later today. Attached is our standard NDA and a background pack on us.

Cheers,
Michael

On Fri, May 3, 2019 at 9:44 AM Justin Nolan <justinhnolan@gmail.com> wrote:

Great meeting you. I look forward to connecting after this weekend to figure out how we can move this project forward. Thanks
Justin

On May 3, 2019, at 9:16 AM, Michael McNamara <michael.mcnamara@lancium.com> wrote:

Great lunch yesterday. I think there are a number of ways to work together. Jamie, we'll see you soon.

On Wed, May 1, 2019 at 6:56 PM Justin Nolan <justinhnolan@gmail.com> wrote:

Jon

Jamie is driving and I don't know the coordinates but the land is located in ward county

On May 1, 2019, at 5:26 PM, Jon Cohen <jon.cohen@lancium.com> wrote:

Great. We'll see you then. We don't have a reservation, so if any trouble getting a table we'll call an audible.

In the meantime if you can send me location/ coordinates of site, I can take a look at historical LMPs and see which service territory and tariff rates apply.

On Wed, May 1, 2019 at 2:40 PM Justin Nolan <justinhnolan@gmail.com> wrote:

That works for both of us

> On May 1, 2019, at 1:40 PM, Jon Cohen <jon.cohen@lancium.com> wrote:

>

> Would you both be able to meet tomorrow at 12:45 tomorrow?

> Michael suggested lunch at Hillstone (27th), but not sure if you have other plans

>

>

>

--

Bearbox v Lancium Trial Exhibit TX748

| (917) 833-2720

--

(917) 833-2720



Appx12433

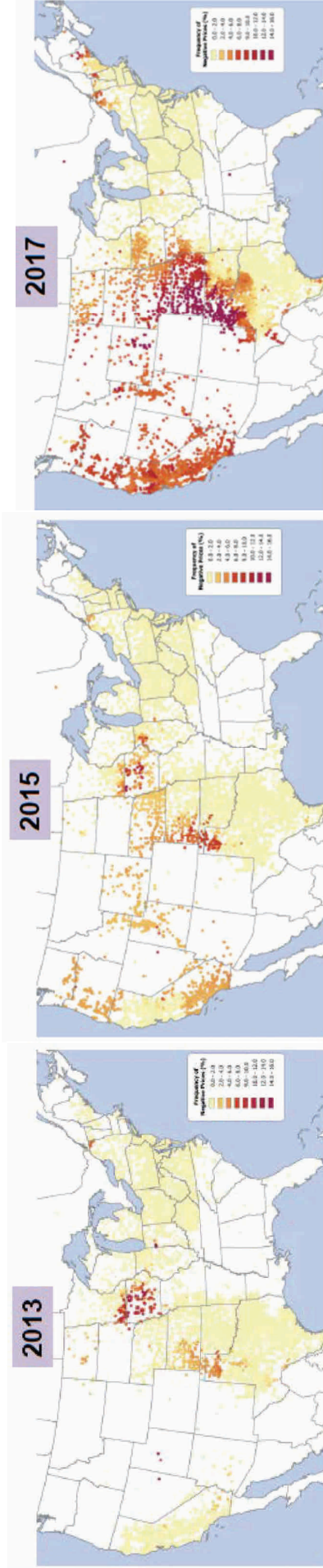


CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00035306

TOO MUCH GREEN POWER IS OVERWHELMING THE GRID

Incidences of Negative Priced Power



Source: National Renewable Energy Laboratory (NREL)



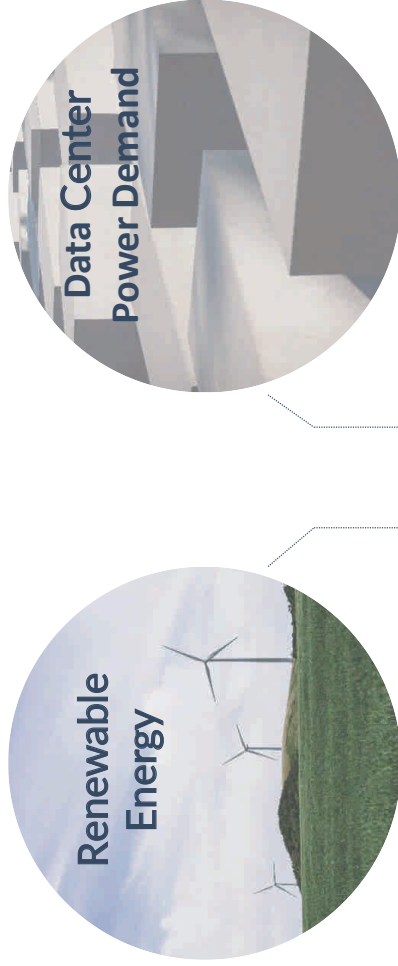
DISTRIBUTED COMPUTING CAN FIX IT

LANCIUM00035308

CONFIDENTIAL - ATTORNEY'S EYES ONLY

INTRODUCTION

- Lancium is a new company that sits at the confluence of mega trends involving computing and energy
- Lancium's proprietary solution allows specialized data centers to consume power directly from renewable energy facilities
- Lancium's innovations (30+ patents in process) position the company as the lowest cost provider of distributed computing



CURRENT MEGA TRENDS IN POWER AND COMPUTING



MOVE TO 100% RENEWABLE GRID

- Renewable generation's share of the power grid will continue to grow
- Zero variable cost leads to increasing frequency of negative priced electricity



GROWTH OF PARALLEL COMPUTING

- Exploding demand for perfectly parallel applications
- These applications (ML, AI and simulations) are unaffected by interruptions



DATA CENTER POWER DEMAND

- Steadily increasing demand for more power at ever increasing power densities
- The End of Moore's Law makes electricity the key cost driver

BIOGRAPHIES



Michael McNamara
Co-Founder and Chief Executive Officer

Entrepreneur and private investor with deep experience in the power, energy and technology industries. Previously, Michael covered energy and resources at a number of multi-billion dollar buy side institutions. Michael graduated from Georgetown University magna cum laude with degrees in Finance and Accounting.



Raymond Cline, Ph.D.
Co-Founder and Chief Computing Officer

Dr. Cline has over 38 years of experience in high performance computing, distributed computing, and information technology. He has held research and senior management level positions at Sandia National Laboratories, SAIC, EDS, HP, University of Houston, and CGI. Dr. Cline has a PhD in Chemical Physics.



Jon Cohen
Chief Financial Officer

Highly experienced power and utilities expert with over twenty years experience in the financial services industry. Jon was previously an Investment Banker at Credit Suisse. Jon most recently covered the Power and Utilities sector at Millennium Management.



Joining June, 2019

Andrew Grimshaw, Ph.D.
Chief Software Architect

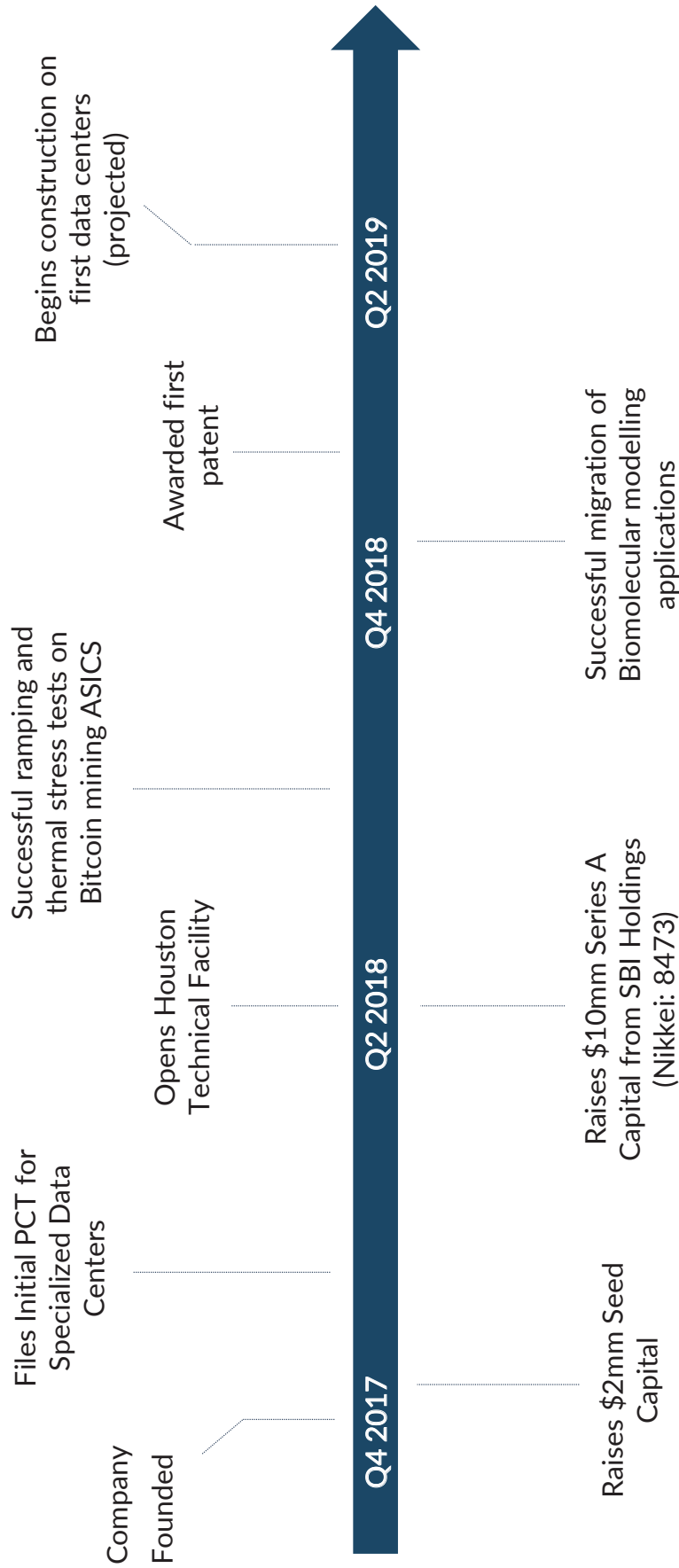
Professor of Computer Science, UVA (on leave). He is the chief designer and architect of Mentat and Legion. In 1999 he co-founded Avaki Corporation, and served as its Chairman and Chief Technical Officer, until 2005 when Avaki was acquired by Sybase.



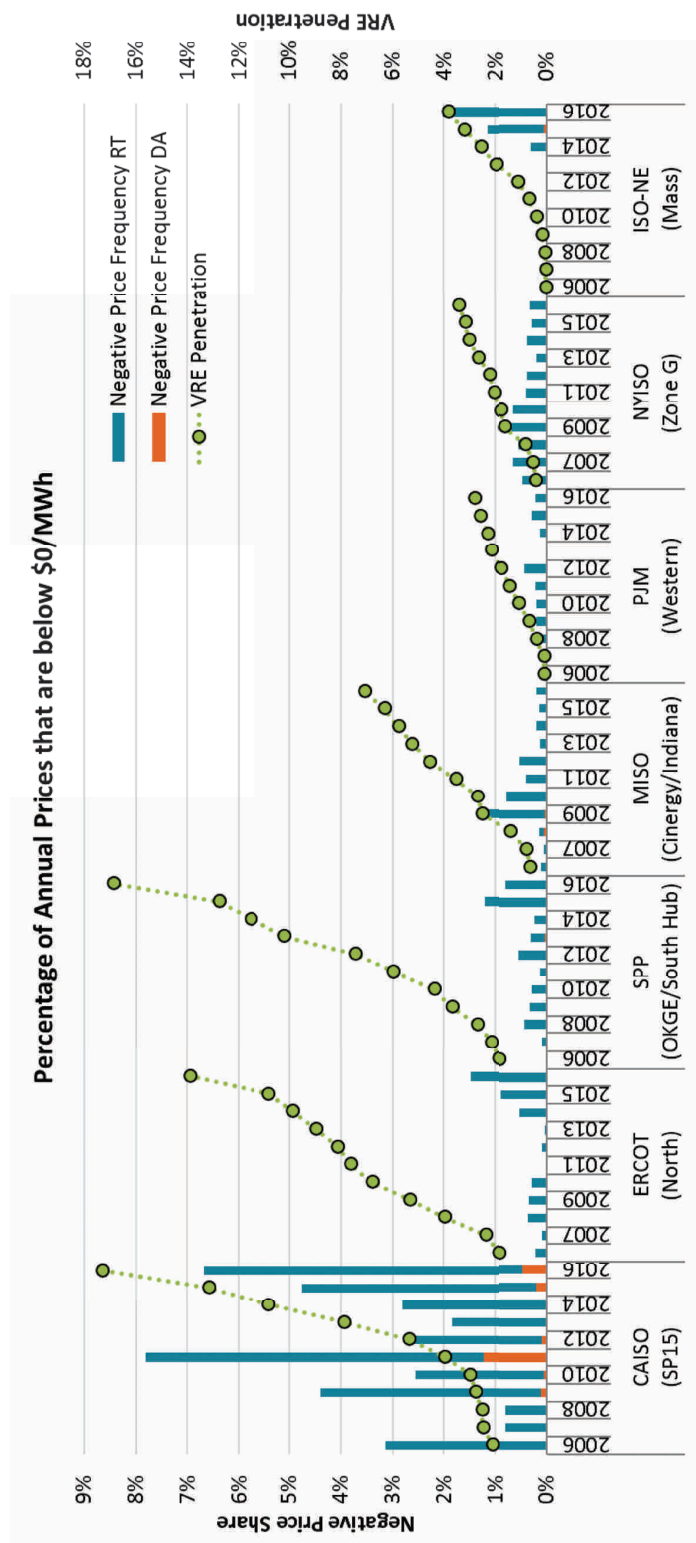
Eric Kutscha
EVP - Operations

Eric has more than 30 years' experience leading electrical engineering and project management of electrical power and control projects. Eric was most recently at Rockwell Automation Intelligent Packaged Power after completing more than 35 years in various sales, engineering, and leadership roles at Siemens.

COMPANY HISTORY AND TIMELINE



THE PROBLEM



Source: UC Berkeley

CONFIDENTIAL - ATTORNEY'S EYES ONLY

DISTRIBUTED COMPUTING IS THE ANSWER

Bring the solution directly to the problem



MORE TRANSMISSION?

- Too expensive
- Cannot get permitted
- No near term projects on horizon in major renewable regions



BATTERY OR STORAGE?

- Currently too expensive
- Shifts availability but not incremental demand
- Price spread in wind corridor does not support construction



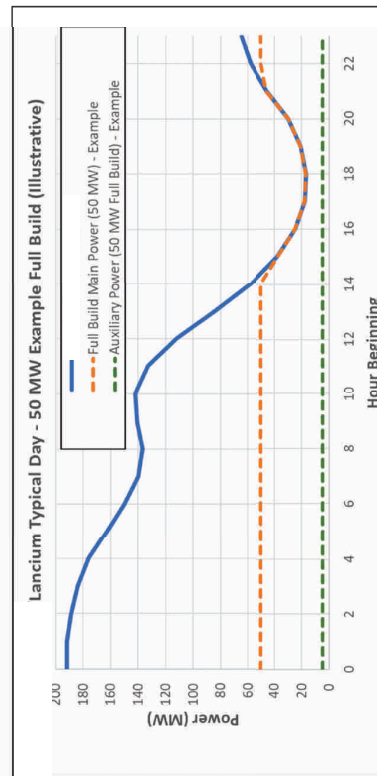
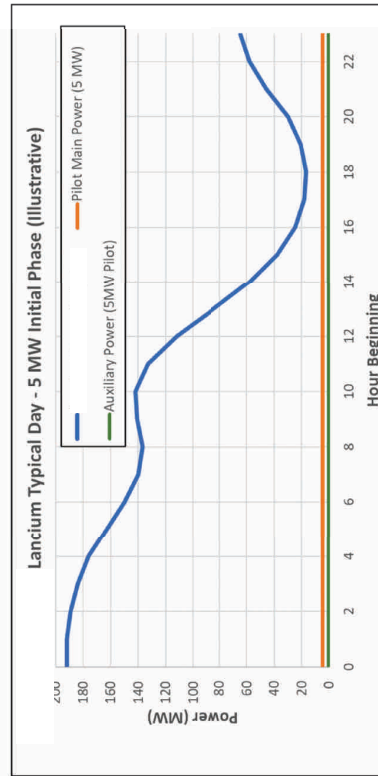
COMPUTE AT THE SOURCE

- Consumes excess power directly from the facility
- Ramps up and down based on power availability and price
- Perfectly suited for parallel computing applications

HOW CAN DISTRIBUTED COMPUTING WORK USING ONLY WIND POWER?

Uptime?	Target specific applications and control server power rapidly (utilize intermittent power availability)
Lost Work?	Checkpoint application status and move jobs as needed (no redundancy required)
Power Surges?	Use software to dynamically control servers (no UPS needed)
Temperature Control?	Only run when power is available and inexpensive (no HVAC required)
Backup Power?	Not necessary - Lancium computing does not require grid power so no Transmission & Distribution charges

LANCIUM'S BENEFIT TO THE OPERATOR AND THE GRID



Lancium power consumption follows the generation profile of wind projects

Data centers spin up and down rapidly to match load with power availability and price

Lancium will spin down during periods of high priced power to enable:

- Generator to maximize profit
- Stronger, more resilient Grid
- Reduced data center thermal stress

CHALLENGES ADDRESSED: LANCIMUM MOAT

Multi-disciplined engineering approach

- Fundamental rethinking of data center design, power market structure and computing paradigms
- Addressed via engineering advancements and in-house innovations

✓ **Regulatory and transaction structure**

✓ **Electrical engineering including power factor and harmonics management**

✓ **Software development and individual server control**

✓ **Thermal control and heat resistance insights**



Appx12444



LANCIUM COST ADVANTAGES

Appx12445

CAPITAL COSTS:

- Very inexpensive to site and build
- Minimal real estate value in Wind Corridor
- Entirely air cooled with no expensive HVAC system
- No redundant systems required

OPERATING COSTS:

- World's cheapest power with no transmission and distribution charges
- Excellent Power Use Effectiveness (PUE) with limited parasitic loss
- Flexible clocking ability

LANCIUM COMPETITIVE ADVANTAGES

- Exclusive ability to utilize exceptionally cheap but intermittent renewable power
- In excess of 30 patents filed or in process
- Enables more renewable generation

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM0005319

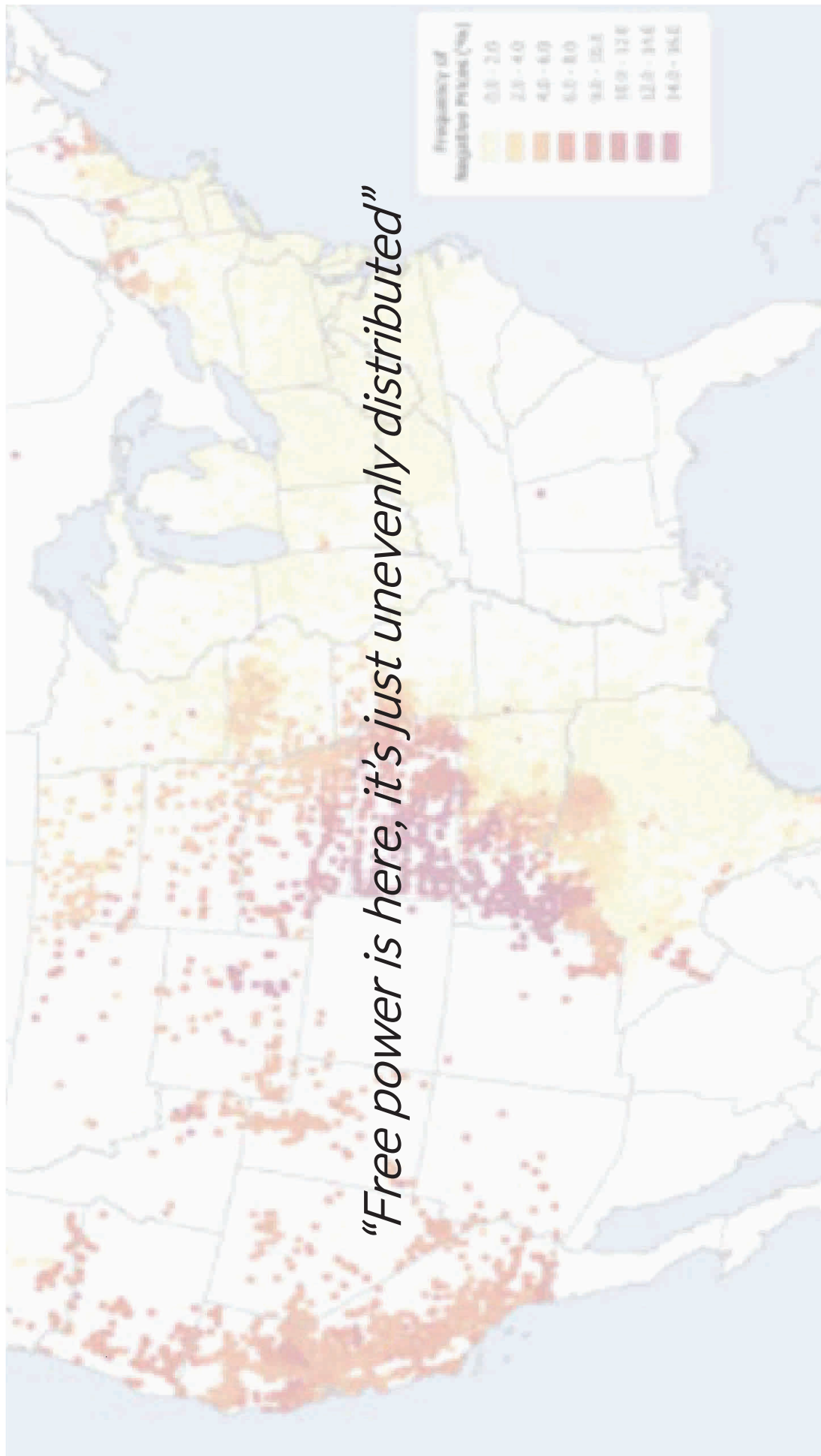


LANCIUM00035320

GO TO MARKET STRATGEY

Appx12447

CONFIDENTIAL - ATTORNEY'S EYES ONLY



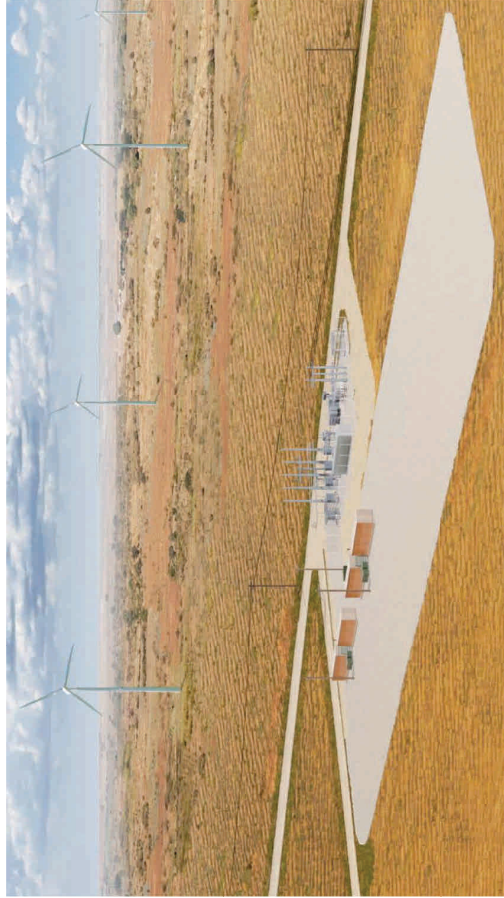
CORPORATE STRATEGY

Capture the Potential Market	Lancium has executed term sheets with four of the world's largest power producers covering 100MW+ of power
Move Fast...	The company is proceeding with pilot stage projects at each power producer to solidify first mover and power price advantage
...but in a Staged Manner	Pilot stage projects require limited capital with Lancium retaining option to commence commercial stage expansion
Up-Sell Rack Space	The data centers will initially be filled with Crypto mining ASICs and backfilled with High Value distributed computing over time
Target Long-Term Deals	Lancium plans on signing long term deals for distributed computing with customers in Industry, Government and Academia

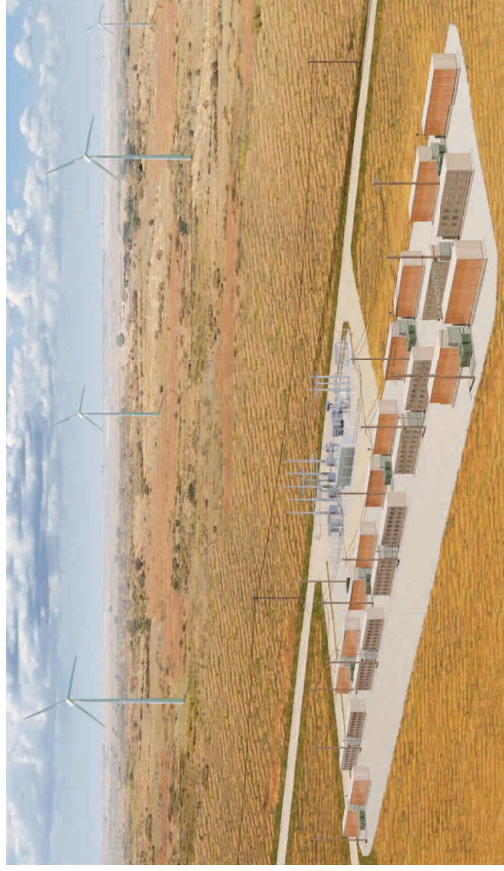
STAGED GROWTH: DATA CENTER LEVEL

Grow footprint to match demand and financing availability

PILOT STAGE: 6MW



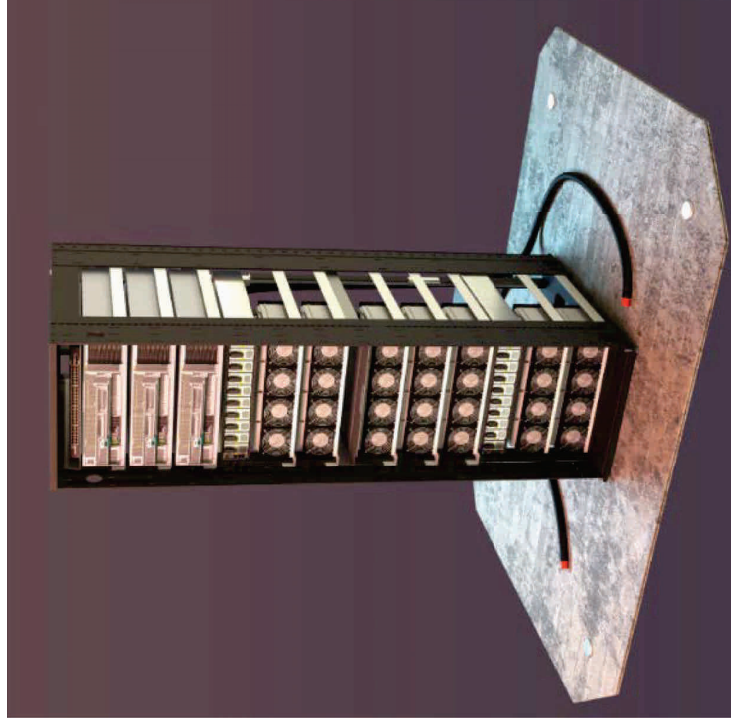
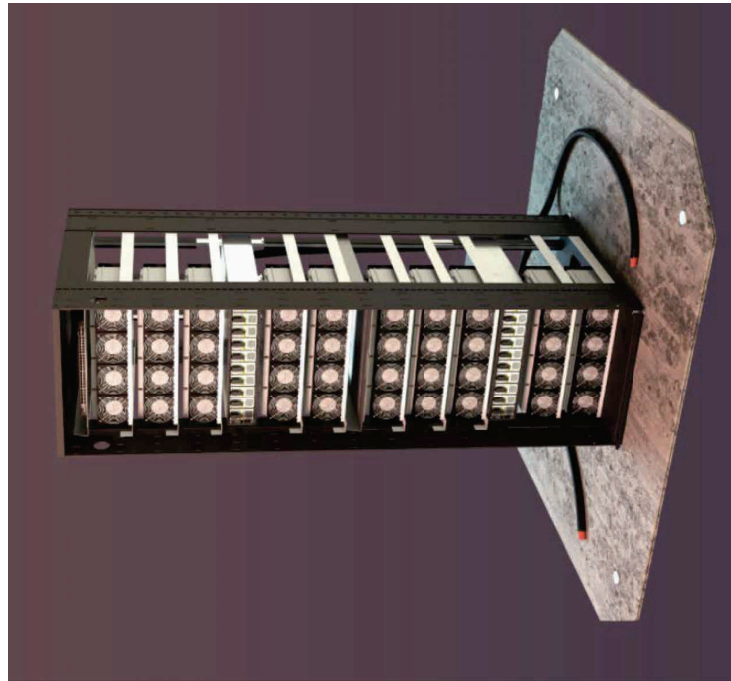
COMMERCIAL STAGE: 35MW



Appx12450

STAGED GROWTH: RACK LEVEL

Distributed computing hardware will displace Crypto ASICs over time



Appx12451

CONFIDENTIAL - ATTORNEY'S EYES ONLY



Appx12452

Requires no sales team and provides immediate revenue

Extremely cheap to install on per KW basis

Crypto ASICs are durable and heat resistant

Requires limited data center fabric and network

Bitcoin mining provides steady margin for those with very low priced power

MARKET STRATEGY FOR CRYPTO RACK SPACE

BULL MARKET

(high ratio of block reward to hash rate)

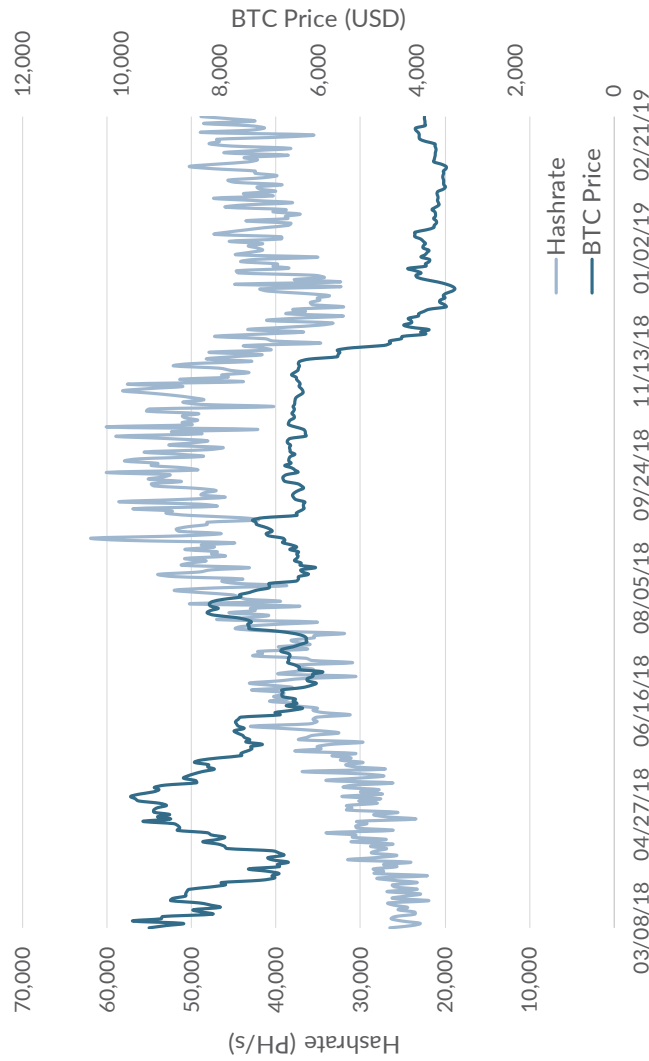
- Enter into multi-year hosting arrangements on existing or new build rack space
- Run legacy merchant machines or bring machines "out of retirement"

BEAR MARKET

(low ratio of block reward to hash rate)

- Purchase machines at very low or scrap value to capitalize on Lancium energy price advantage
- Enter into Vendor Finance arrangements with OEMs

BITCOIN MINING ECONOMIC CONSIDERATIONS



Extremely rational commodity business

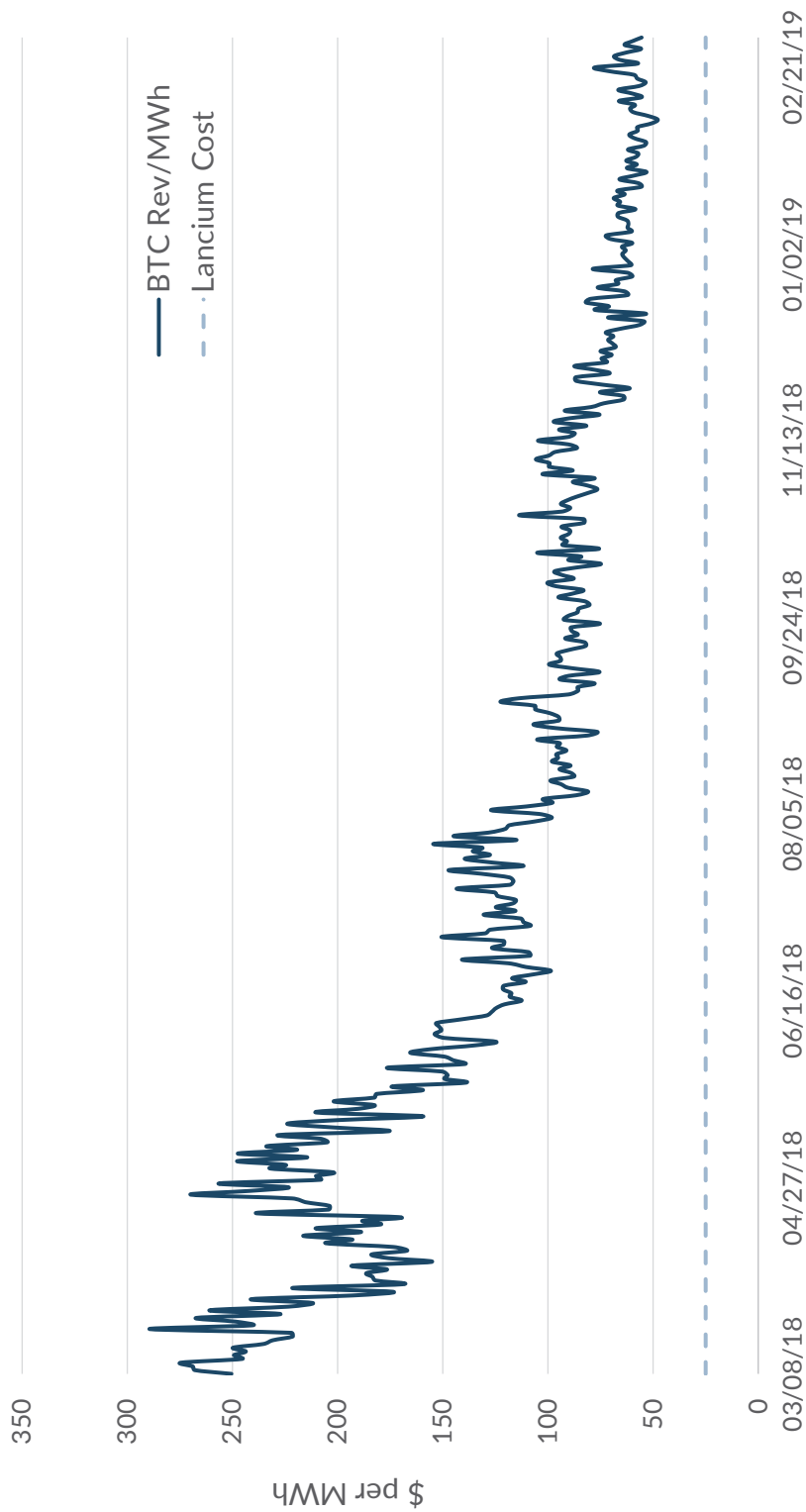
Due to the End of Moore's Law, limited availability to improve ASICs

Operating cost (electricity) is now the key major variable

Bitcoin mining profitability is driven by Bitcoin price, Hash Rate and electricity

Recently, hash rate has been extremely responsive to Bitcoin price moves which creates embedded margin if one has access to very cheap electricity

BTC MINING REVENUE (S9): EMBEDDED MARGIN



Appx12455

AFTER BITCOIN MINING? THE NEXT APPLICATIONS

	Description	Examples
High Throughput Computing, <i>(Tightly Coupled)</i> High Performance Computing	Highest value computing for major Government, Industrial and Academic research	Fluid Dynamics, Large Machine Learning Studies, Weather Modelling
High Throughput Computing, <i>(Loosely Coupled)</i>	Parallel computing that does not require expensive and complex networking	Monte Carlo Modelling, Small Machine Learning Studies, Image Rendering
Low Value Computing	Bitcoin mining will be deployed first due to ease and low capital cost	Proof-of-Work

TOTAL ADDRESSABLE MARKET

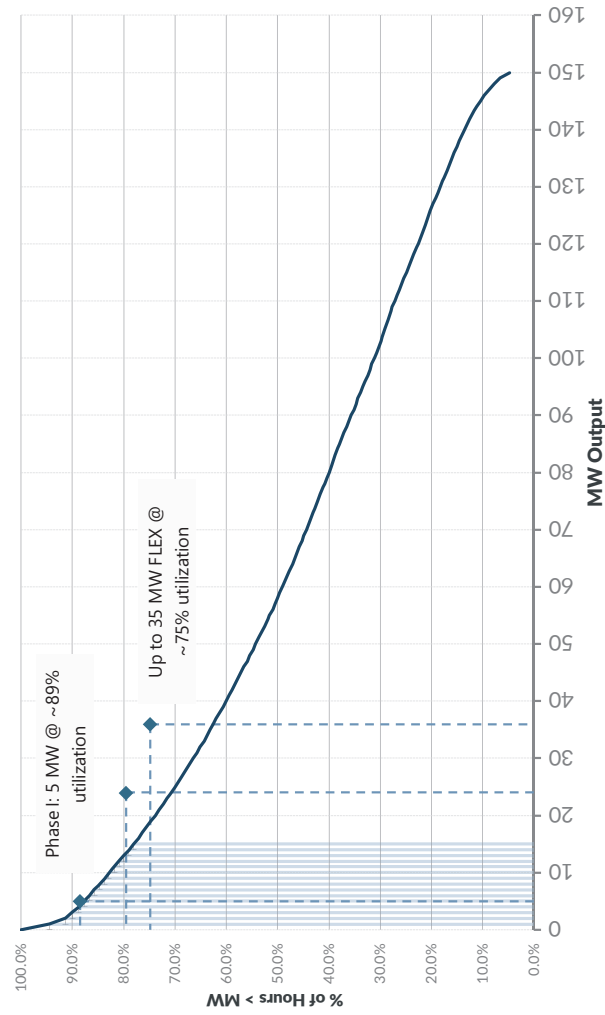
	Total Addressable Market (USD)	Highly Suited to Lancium %	Highly Suited to Lancium (USD)
High Performance Computing	\$10 B	30%+	\$3 B
Cloud and Computing Industries	\$20 B	25%+	\$5 B
Hyperscale and Consumer Internet	\$20 B	25%+	\$5 B
Low Value Computing	\$3 B	100%+	\$3 B

Source: NVIDIA, Lancium internal estimates

CONFIDENTIAL - ATTORNEY'S EYES ONLY

WHY WIND? THE DISTRIBUTION OF POWER GENERATION

POWER DURATION CURVE



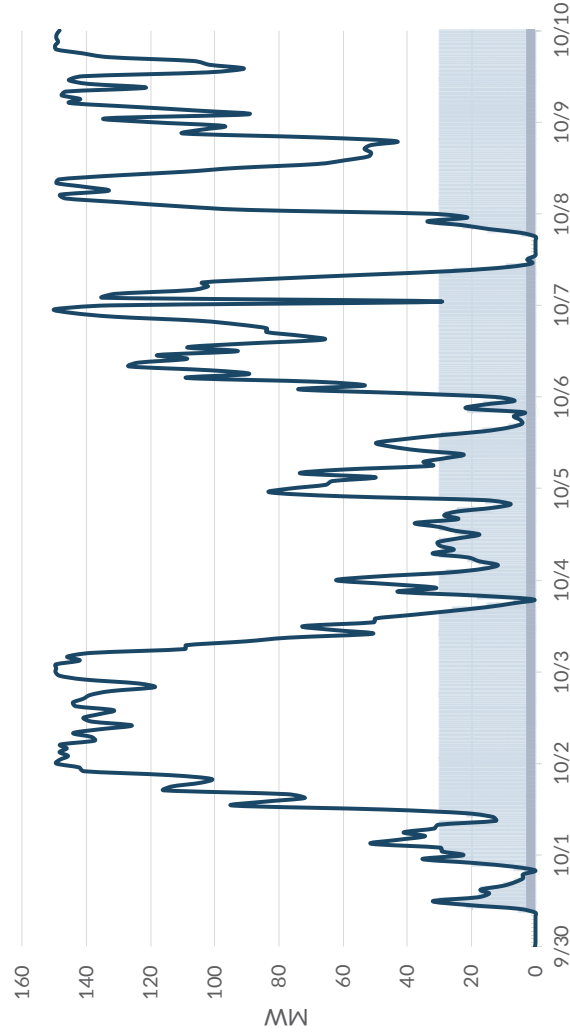
Wind production distribution allows for a tiered data center installation

Lancium deal arrangements call for “first call” on power with high priced hours retained by the generator

Some power is nearly always available to Lancium data centers

Available power is routed to most valuable computing hardware first

WHY WIND? THE DISTRIBUTION OF POWER GENERATION



Low value computing (light blue) will serve as a buffer and absorb the majority of wind power variability

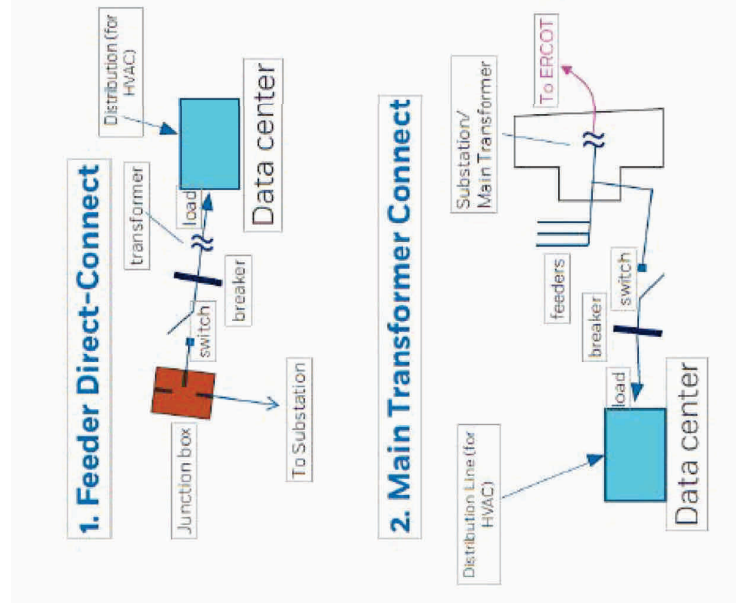
Lancium has proven the resiliency of bitcoin mining hardware to constant and fast ramping

Higher value computing (gray) will receive nearly constant power and will see rare and short periods of downtime

WIND ENGINEERING CONSIDERATIONS

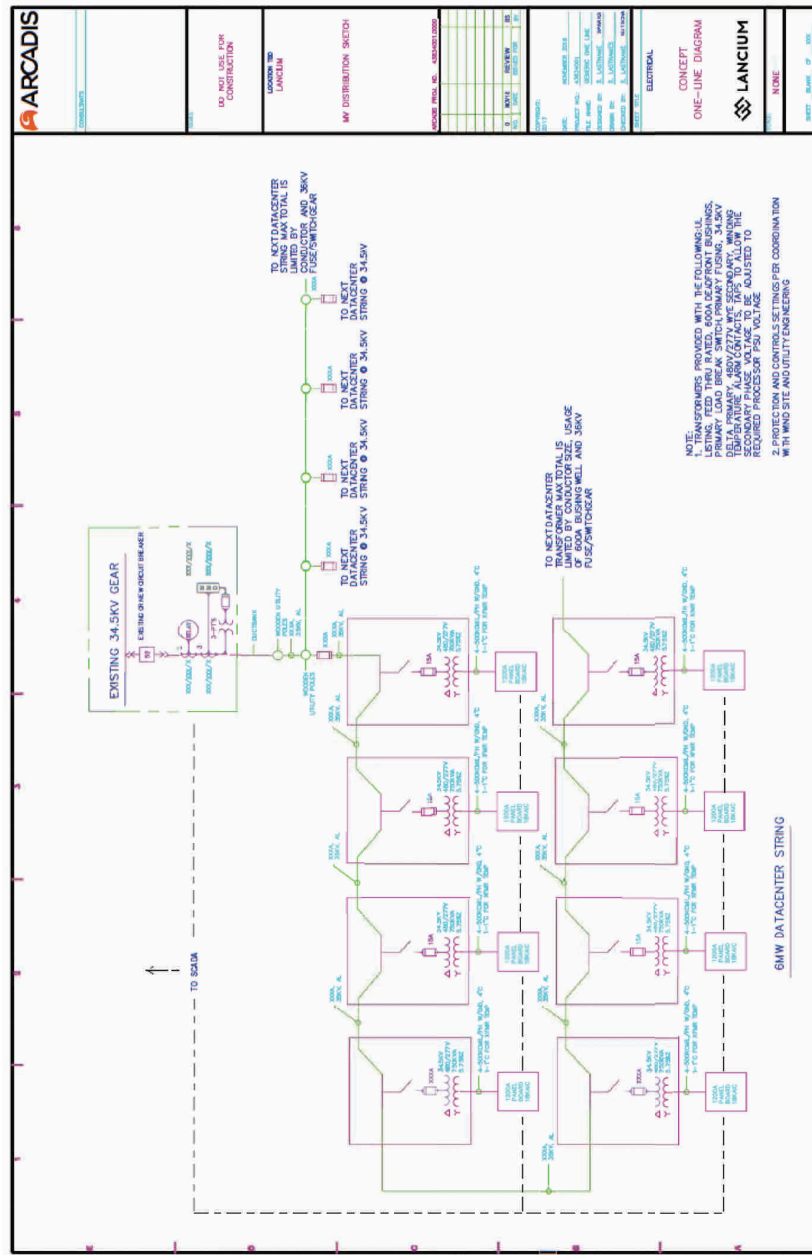
Lancium has developed several interconnection options to fit the needs of its wind partners

- Lancium has worked on two potential options: (1) Feeder Direct-Connect or (2) Main Transformer Connect
- Regardless of approach, Server Facility would be behind a breaker-switch and/or other equipment to enable isolation
- Isolation equipment to be in complete control of wind project (except in cases of curtailment for safety purposes by Lancium)



ILLUSTRATIVE SINGLE LINE DIAGRAM

Conceptual SLD for substation interconnect



29

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00035334

The World's Only Truly Green Computing

"Run cycles at Lancium and help save the planet."

Appx12462

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LNCIUM00055335

CONFIDENTIALITY AGREEMENT

This Confidentiality Agreement (this "**Agreement**") is delivered this ____ day of _____, 201__, by and between Lancium, LLC, for itself and on behalf of its affiliates, successors and assigns ("**Lancium**") and _____, for itself and on behalf of its affiliates, successors and assigns ("_____"). Any party receiving information in connection with the Matter shall, together with its affiliates, be considered a "**Receiving Party**" with respect to such information, and any party disclosing information in connection with the Matter shall, together with its affiliates, be considered as a "**Disclosing Party**" with respect to such information. In connection with the [SUBJECT MATTER] (the "**Matter**"), each Receiving Party has requested access to certain information which is either non-public or proprietary in nature. In consideration for and as a condition to a Disclosing Party furnishing such information, each Receiving Party agrees to treat any Confidential Material in accordance with the provisions set forth below, acknowledging the confidential and proprietary nature of such Confidential Material.

As used herein, the term "**Confidential Material**" means any and all information concerning a Disclosing Party, its affiliates and subsidiaries and its customers which is furnished to a Receiving Party or its Representatives by or on behalf of a Disclosing Party (including any information containing, reflecting or generated from such information), whether furnished before or after the date of this Agreement and regardless of the manner in which it is furnished, including but not limited to, information regarding a Disclosing Party's inventions, products, software, trade secrets, know-how, technical information, specifications, original works of authorship, developments, concepts, improvements, designs, discoveries, ideas, processes, techniques, formulas, trademarks, data and other intellectual property, business plans and strategies, existing or proposed bids, technical or engineering developments, existing or proposed research projects, knowledge gained through observation of or access to facilities, financial or business information or projections, employees, investments, marketing plans and strategies, pricing and cost information, negotiation strategies, training information and materials, information, identities, usages or requirements of existing or potential suppliers and customers, and in each case shall include all notes, analyses, memoranda or other writings containing Confidential Material prepared by or on behalf of Receiving Party or its employees, affiliated entities (including officers or directors of such entities), representatives, joint venturers, business partners or agents (collectively the "**Representatives**").

Nothing contained herein shall be construed as restricting disclosure or use of the following information: (a) information which, prior to the time of disclosure by a Disclosing Party, was known to a Receiving Party as evidenced by its written records; (b) information which, at the time of disclosure to a Receiving Party, was in the public domain; (c) information which, after disclosure to a Receiving Party, becomes part of the public domain other than through the fault or negligence of a Receiving Party or its Representatives, or as a result of a breach of this Agreement by the Receiving Party or its Representatives; or (d) information which is disclosed to a Receiving Party in good faith by a third party who was not, nor is not, under any obligation of confidence to Disclosing Party at the time the third party discloses the information to Receiving Party.

It is understood that the Receiving Party may disclose any of the Confidential Material to those Representatives who require such material for the purpose of the Matter (provided that such Representatives shall be informed of the confidential nature of the Confidential Material and shall be bound by the terms and conditions hereof as if they were a party hereto). In any event, each Receiving Party will be responsible for any breach of this Agreement by its Representatives. Each Receiving Party agrees that the Confidential Material will be kept confidential by it and its Representatives and, except with the specific prior written consent of a Disclosing Party or as expressly otherwise permitted by the terms hereof, will not be disclosed by a Receiving Party or its Representatives. Each Receiving Party further agrees that such Receiving Party and its Representatives will not use any of the Confidential Material for any reason or purpose other than for the Matter and that the Confidential Material shall not be used in any way detrimental to a Disclosing Party. Each Receiving Party also agrees to be responsible for enforcing the confidentiality of the Confidential Material and agrees to take such action, legal or otherwise, to the extent necessary to prevent any disclosure of the Confidential Material by any of its Representatives.

10101345v1 11/28/2018 10:48 AM

7816.001

Bearbox v Lancium Trial Exhibit TX750
--

Without the prior written consent of a Disclosing Party, neither a Receiving Party nor its Representatives will disclose to any person (i) the fact that the Confidential Material has been made available to it or that a Receiving Party has inspected any portion of the Confidential Material, or (ii) the fact that any discussions are taking place in connection with the Matter, or relating to a possible relationship with a Receiving Party, including the status thereof.

In the event that a Receiving Party or any of its Representatives become legally compelled (by oral questions, interrogatories, requests for information or documents, subpoena, civil investigative demand or similar process) to make any disclosure which is prohibited or otherwise constrained by this Agreement, such Receiving Party or such Representative, as the case may be, will (i) provide the Disclosing Party with prompt notice of such request(s) so that it may seek an appropriate protective order or other appropriate remedy and/or waive the Receiving Party's or such Representative's compliance with the provisions of this Agreement and (ii) cooperate with the Disclosing Party (at the Disclosing Party's expense) in its efforts to decline, resist or narrow such requests. In the event that such protective order or other remedy is not obtained and a Receiving Party or any its Representatives is compelled to disclose any of the Confidential Material, (i) only that portion of the Confidential Material that is legally required to be disclosed shall be furnished by the Receiving Party and (ii) the Receiving Party shall use its best efforts to obtain (or to cooperate with the Disclosing Party in its efforts to obtain) an order or other reliable assurance that confidential treatment will be accorded any Confidential Material so disclosed.

If a Receiving Party determines that it does not wish to proceed with a relationship or transaction related to the Matter, it shall promptly notify the Disclosing Party of such decision. At such time, or at any time upon the written request of a Disclosing Party, the Receiving Party shall (a) promptly destroy all copies of the Disclosing Party's written Confidential Material in the Receiving Party's possession and direct its Representatives to destroy any written Confidential Material in its possession, (b) cause the deletion from all immediately accessible computer storage systems of any electronic versions of the Confidential Material, and (c) promptly destroy all analyses, compilations, summaries, studies and other material prepared by the Receiving Party or its Representatives which are based in whole or in part on, or otherwise containing or reflecting any of, the Confidential Material. An officer of the Receiving Party shall certify any such destruction to the Disclosing Party in writing. Notwithstanding the foregoing, a Receiving Party shall be permitted to retain an electronic copy of any Confidential Material in compliance with any bona fide, preexisting records retention policy solely for archival purposes. Any Confidential Material that is not so destroyed, including without limitation any oral Confidential Material, shall remain subject to the confidentiality and other obligations set forth in this Agreement.

Each Receiving Party understands that neither a Disclosing Party nor its Representatives or agents make any representation or warranty (express or implied) as to the accuracy or completeness of the Confidential Material. Each Receiving Party agrees that neither a Disclosing Party nor its Representatives or agents shall have any liability to a Receiving Party or any of its Representatives resulting from the use of the Confidential Material by the Receiving Party or such Representatives. The agreements set forth in this paragraph may be modified or waived only by a separate writing signed by the Disclosing Party and the Receiving Party expressly so modifying or waiving such agreements.

Each Receiving Party acknowledges that money damages would be both incalculable and an insufficient remedy for any breach of this Agreement by it or its Representatives and that any such breach would cause the Disclosing Party irreparable harm. Accordingly, each Receiving Party agrees that in the event of any breach or threatened breach of this Agreement, the Disclosing Party shall be entitled, without the requirement of posting a bond or other security, to equitable relief, including injunctive relief and specific performance. Such remedy shall not be the exclusive remedy for any breach of this Agreement but shall be in addition to all other remedies available at law or equity to a Disclosing Party.

The confidentiality restrictions imposed hereby shall continue for a period of two (2) years from the date of this Agreement. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware.

It is understood and agreed that no failure or delay by a Disclosing Party in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any right, power or privilege hereunder. If at any time the duration, scope, area or restrictions in this Agreement are found to be invalid, unreasonable or unenforceable under circumstances then existing, the parties agree that the maximum duration, scope, area or restrictions which are valid, reasonable and enforceable under such circumstances shall be substituted for the stated duration, scope, area or restrictions and that a court shall be allowed and directed to revise the terms contained herein to cover the maximum duration, scope, area and restriction permitted by law. If a court declines to amend this Agreement as provided herein, the invalidity of any one or more of the words, phrases, sentences, clauses or sections contained in this Agreement shall not affect the enforceability of the remaining portions of this Agreement or any part thereof, all of which are separate and independent and inserted conditionally on their being valid in law, and, in the event that any one or more of the words, phrases, sentences, clauses, paragraphs or sections contained in this Agreement shall be declared invalid, this Agreement shall be construed as if such invalid word or words, phrase or phrases, sentence or sentences, clause or clauses, paragraph or paragraphs, or section or sections had not been inserted.

This Agreement may be executed in counterparts, each of which shall be deemed an original and both of which, taken together, shall constitute one and the same instrument. Signatures for the parties transmitted by facsimile or other electronic means shall be deemed to be their original signatures for any purpose whatsoever.

IN WITNESS WHEREOF, each of the undersigned hereby executes this Confidentiality Agreement as of the date set forth above.

LANCIUM, LLC

By: _____
Print Name: _____
Its: _____

[NAME OF ENTITY]

By: _____
Print Name: _____
Its: _____

From: Michael McNamara <michael.mcnamara@lancium.com>
To: Ian Rock <ian.rock@lancium.com>, Raymond Cline <recline@lancium.com>
Subject: Fwd: FW: ERCOT Energy Curves Have Been Updated
Date: Wed, 14 Aug 2019 11:48:54 -0500
Importance: Normal
Attachments: Lancium_August_2019_Renewal_-_24_months.docx

We can fix our power price at 34.62 for 1.3 mw for 24 months. This would allow us to capture all that revenue above that level once we spin down.

Any objections or thoughts?

----- Forwarded message -----

From: **Todd Wilson** <Todd.Wilson@calpinesolutions.com>
Date: Wed, Aug 14, 2019 at 11:45 AM
Subject: RE: FW: ERCOT Energy Curves Have Been Updated
To: Michael McNamara <michael.mcnamara@lancium.com>
CC: Joe Nesser <Joe.Nesser@calpinesolutions.com>

Michael,

Attached is a contract for the fixed price of \$34.62, 24 months, 1.3 MW ATC.

Best Regards,

Todd

Todd Wilson

Cell: (919) 414-7986

From: Michael McNamara [mailto:michael.mcnamara@lancium.com]
Sent: Wednesday, August 14, 2019 11:29 AM
To: Todd Wilson <Todd.Wilson@calpinesolutions.com>
Subject: Re: FW: ERCOT Energy Curves Have Been Updated

External Sender: Use caution with links/attachments.

Let's do 24 month please

On Wed, Aug 14, 2019 at 11:24 AM Todd Wilson <Todd.Wilson@calpinesolutions.com> wrote:

Pricing just came in for our desk: pricing is fixed price energy only, all other costs pass-through at cost. Due to your historical usage the most we can fix in terms of volume is 1.3 MW's for now, we can add to that as your load increases.

Bearbox v Lancium Trial Exhibit TX756
--

Pricing is for start date of August 16th.

1.3 MW fixed price round the clock for 24 months = \$ 34.62 per Mwhr.

1.3 MW fixed price round the clock for 36 months = \$ 34.53 per Mwhr.

Let me know what you think.

Best Regards,

Todd

Todd Wilson

Cell: (919) 414-7986

From: Michael McNamara [mailto:michael.mcnamara@lancium.com]

Sent: Wednesday, August 14, 2019 8:45 AM

To: Todd Wilson <Todd.Wilson@calpinesolutions.com>

Subject: Re: FW: ERCOT Energy Curves Have Been Updated

External Sender: Use caution with links/attachments.

Ok

On Wed, Aug 14, 2019 at 7:38 AM Todd Wilson <Todd.Wilson@calpinesolutions.com> wrote:

Will have pricing for you today but as you can see pricing has gone up \$1.00 for the 24 month term. I will speak with the wholesale desk to see how the market is shaping up for later today.

Best Regards,

Todd

Todd Wilson

Cell: (919) 414-7986

From: Mark Ruggles

Sent: Wednesday, August 14, 2019 7:32 AM

To: CS ERCOT Desk <CSERCOTDesk@calpinesolutions.com>; CS ERCOT Sales Team

<CSERCOTSalesTeam@CalpineSolutions.com>; Ercot_desk@champion.energy; CES.Dept_DL-C&I@calpine.com; Marcus Dotson <MDotson@cavallotspp.com>; jattkisson@cavallotspp.com; tdortch@cavallotspp.com; LuAnn Morgan <lmorgan@cavallotspp.com>; Byron Gannaway <BGannaway@cavallotspp.com>; Patricia Young <pyoung@cavallotspp.com>

Subject: ERCOT Energy Curves Have Been Updated

Price Change Since Last Upload \$/MWh				
between Tue, Aug 13, 2019 5:35 PM (Pacific)				
and Wed, Aug 14, 2019 7:31 AM (Pacific)				
Term	North Hub	Hous Hub	South Hub	West Hub
3 Mo	0.48	0.48	0.48	0.48
6 Mo	0.41	0.41	0.41	0.41
12 Mo	1.36	1.36	1.36	1.36
24 Mo	1.00	1.00	1.00	1.00
36 Mo	0.88	0.88	0.88	0.88
48 Mo	0.78	0.78	0.78	0.78
60 Mo	0.72	0.72	0.72	0.72

Day-over-Day Price Change \$/MWh				
between Tue, Aug 13, 2019 12:00 AM (Pacific)				
and Wed, Aug 14, 2019 7:31 AM (Pacific)				
Term	North Hub	Hous Hub	South Hub	West Hub
3 Mo	0.48	0.48	0.48	0.48
6 Mo	0.41	0.41	0.41	0.41
12 Mo	1.36	1.36	1.36	1.36
24 Mo	1.00	1.00	1.00	1.00
36 Mo	0.88	0.88	0.88	0.88
48 Mo	0.78	0.78	0.78	0.78
60 Mo	0.72	0.72	0.72	0.72

COMPANY CONFIDENTIALITY NOTICE: The information in this e-mail may be confidential and/or privileged and protected by work product immunity or other legal rules. No confidentiality or privilege is waived or lost by mis-transmission. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination, or copying of this e-mail and its attachments, if any, or the information contained herein is prohibited. If you have received this e-mail in error, please immediately notify the sender by return e-mail and delete this e-mail from your computer system.

--

(917) 833-2720

COMPANY CONFIDENTIALITY NOTICE: The information in this e-mail may be confidential and/or privileged and protected by work product immunity or other legal rules. No confidentiality or privilege is waived or lost by mis-transmission. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination, or copying of this e-mail and its attachments, if any, or the information contained herein is prohibited. If you have received this e-mail in error, please immediately notify the sender by return e-mail and delete this e-mail from your computer system.

--

(917) 833-2720

COMPANY CONFIDENTIALITY NOTICE: The information in this e-mail may be confidential and/or privileged and protected by work product immunity or other legal rules. No confidentiality or privilege is waived or lost by mis-transmission. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination, or copying of this e-mail and its attachments, if any, or the information contained herein is prohibited. If you have received this e-mail in error, please immediately notify the sender by return e-mail and delete this e-mail from your computer system.

--

(917) 833-2720

**ADDENDUM FOR FIXED PRICE, FIXED VOLUME ELECTRICITY
with Settlement Interval Balancing (ERCOT)**

Reference:
ELECTRICITY SALES AND PURCHASE AGREEMENT
Between Calpine Energy Solutions, LLC ("Seller")
And LANCIUM LLC ("Buyer")
As of June 18, 2018 ("Effective Date")
Addendum Date: August 14, 2019

This Addendum (the "Addendum") supplements the Electricity Sales and Purchase Agreement referred to above (the "Agreement"). The Parties hereby agree to the terms and conditions set forth herein for Buyer's Facilities served at the Delivery Point. Capitalized terms not otherwise defined in this Addendum shall have their meanings set forth elsewhere in the Agreement, including its Appendices.

1. PRODUCT:

Contract Prices for Electricity set forth in this Addendum include each component identified in the table set forth below that is indicated by an [X], which are referred to collectively in this Addendum as "Electricity."

ELECTRICITY:	
<input checked="" type="checkbox"/>	Electric Energy
<input type="checkbox"/>	Ancillary Services (Reg-Up, Reg-Down, Responsive Reserve, and Non-Spin)
<input type="checkbox"/>	ISO QSE/SC Charges and Fees
<input type="checkbox"/>	RUC Make-Whole Uplift, RUC Clawback, and RUC Decommitment
<input type="checkbox"/>	Distribution/Transmission Losses/UFE (collectively, "Line Losses")
<input type="checkbox"/>	Locational Basis

2. DELIVERY PERIOD:

This Addendum shall be in full force and effect as of the Addendum Date. The terms set forth herein shall apply from the Start Date through the End Date:

Start Date:	End Date:
August 16, 2019	July 31, 2021

3. DELIVERY POINT:

Market Area	Supply Point	Delivery Point
ERCOT	Houston Trading Hub	Houston Load Zone

4. PRICING:

4.1 Contract Price. For each settlement interval, Buyer shall pay the following Contract Price per MWh for the Contract Quantity of Electricity set forth in the table below:

Contract Price (in US\$/MWh)
\$34.62

The Contract Price set forth above includes only the components set forth in Section One of this Addendum that are marked with an [X]. All other charges shall be passed through directly to Buyer. The Contract Price reflects the value related to Congestion Revenue Rights.

4.2 Monthly Settlement. Buyer's invoice shall reflect charges based on Buyer's usage as set forth below. If Line Losses are not included in Section 1, Buyer's metered usage shall be adjusted for Line Losses. If Line Losses are included in Section 1, the Excess Quantity shall be adjusted for Line Losses.

4.2.1 During any settlement interval, if Buyer's usage exceeds the Contract Quantity set forth below ("Excess Quantity"), Buyer shall pay Seller the real-time price for energy and all related delivery charges, as determined by ERCOT at the Delivery Point, plus \$1.00 per MWh for the Excess Quantity. Buyer shall also pay RUC capacity short charges on the Excess Quantity. For the purpose of determining RUC capacity short charges, Buyer acknowledges that the ERCOT real time market will be considered the source for all of the Excess Quantity.

4.2.2 During any settlement interval, if Buyer's usage is less than the Contract Quantity as set forth below ("Deficit Quantity"), Seller shall credit Buyer's account by an amount equal to the Deficit Quantity multiplied by the real-time price for energy as determined by ERCOT at the Delivery Point.

4.3 Locational Basis. Locational Basis shall be calculated each settlement interval as an amount equal to the real time settlement point price at the Delivery Point less the real time settlement point price at the Supply Point. If the Locational Basis component is not marked as included in Section 1 above, Locational Basis shall be added to the

Contract Price. If the Locational Basis component is not marked as included and Line Losses are marked as included in Section 1, Locational Basis shall be adjusted by the appropriate loss factor.

4.4 Changes in Circumstances

4.4.1 The Contract Price and all other terms and conditions of this Addendum are established in reliance on the accuracy of information provided to Seller concerning Buyer's load requirements. Any incremental costs incurred by Seller as a result of inaccuracies in any such information provided to Seller may be passed through to Buyer.

4.4.2 The Contract Price and all other terms and conditions of this Addendum are established in reliance on the existing Laws, rates, charges, independent system operator processes, market structure, congestion zone design and protocols that are in effect as of the Addendum Date. In the event of changes in the above that cause additional costs to Seller, Seller may pass through such costs to Buyer.

5. **CONTRACT QUANTITY:**

Seller shall service 100% of Buyer's Electricity requirements at Buyer's Facilities. The Contract Quantities for this Transaction are set forth below:

The Contract Price relates to the Contract Quantities at (choose one) <input checked="" type="checkbox"/> the Delivery Point <input type="checkbox"/> Buyer's Meter			
Contract Quantity*			
Month	5x16 Contract Quantity (MW)	2x16 Contract Quantity (MW)	7x8 Contract Quantity (MW)
8/2019	1.30	1.30	1.30
9/2019	1.30	1.30	1.30
10/2019	1.30	1.30	1.30
11/2019	1.30	1.30	1.30
12/2019	1.30	1.30	1.30
1/2020	1.30	1.30	1.30
2/2020	1.30	1.30	1.30
3/2020	1.30	1.30	1.30
4/2020	1.30	1.30	1.30
5/2020	1.30	1.30	1.30
6/2020	1.30	1.30	1.30
7/2020	1.30	1.30	1.30
8/2020	1.30	1.30	1.30
9/2020	1.30	1.30	1.30
10/2020	1.30	1.30	1.30
11/2020	1.30	1.30	1.30
12/2020	1.30	1.30	1.30
1/2021	1.30	1.30	1.30
2/2021	1.30	1.30	1.30
3/2021	1.30	1.30	1.30
4/2021	1.30	1.30	1.30
5/2021	1.30	1.30	1.30
6/2021	1.30	1.30	1.30
7/2021	1.30	1.30	1.30

*As used in the table above, (i) "5x16" means hours ending ("HE") HE 7:00 through HE 22:00 CPT Monday through Friday, excluding NERC holidays, (ii) "2x16" means HE 7:00 through HE 22:00 CPT Saturday, Sunday and NERC holidays, and (iii) "7x8" means HE 1:00 through HE 6:00 and HE 23:00 through HE 24:00 CPT Monday through Sunday.

6. **CUSTOMER PROTECTION RULES:**

To the extent permitted by law, Buyer hereby waives its rights set forth in the Customer Protection Rules enacted by the Public Utility Commission of Texas (Texas Substantive Rules, Section 25.471, et seq.).

As supplemented by this Addendum including its Schedules, if any, all other Terms and Conditions contained in the Agreement remain in full force and effect.

This Addendum is subject to the Schedule(s) identified below:

CALPINE ENERGY SOLUTIONS, LLC

LANCIUM LLC

Sign: _____

Sign: _____

Print: _____

Print: _____

Title: _____

Title: _____

From: Todd Wilson <Todd.Wilson@calpinesolutions.com>

To: Michael McNamara <michael.mcnamara@lancium.com>, Raymond Cline
<recline@lancium.com>

CC: Rachel Arndt <rachel.arndt@lancium.com>, ian.rock <ian.rock@lancium.com>

Subject: RE: Calpine forecast for CP days

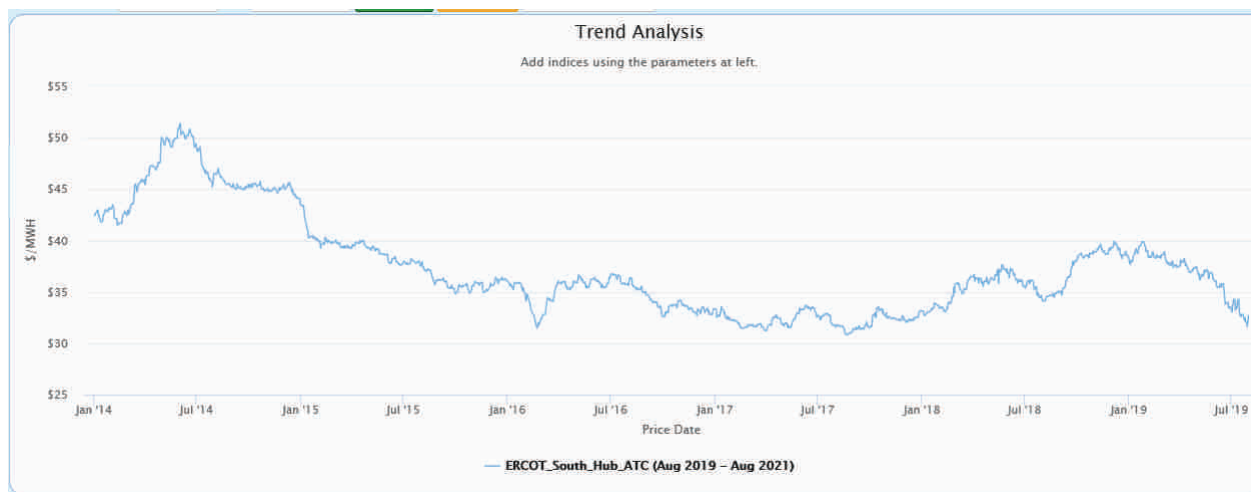
Date: Mon, 5 Aug 2019 22:04:12 +0000

Inline-Images: image001.png

Michael,

Your contract is currently on month to month, which is index pricing. Jon wanted to look at a 2 year fixed pricing for your load given how close we are to all time historical lows in ERCOT South. Pricing below is for 2 years starting August 1.

I was arranging Jon to speak with our credit department to get an update on our original credit approval....need to take care of this if you want to look at locking in this low price for 24 months. Current pricing is \$32.08. Let me know what you would like to do.



Best Regards,

Todd

Bearbox v Lancium
Trial Exhibit
TX758

Todd Wilson
Cell: (919) 414-7986

From: Michael McNamara [mailto:michael.mcnamara@lancium.com]
Sent: Monday, August 5, 2019 4:17 PM
To: Raymond Cline <recline@lancium.com>
Cc: Rachel Arndt <rachel.arndt@lancium.com>; ian.rock <ian.rock@lancium.com>; Todd Wilson <Todd.Wilson@calpinesolutions.com>
Subject: Re: Calpine forecast for CP days

External Sender: Use caution with links/attachments.

Hello Todd,

Jon Cohen is no longer with Lancium. Could you please be sure to send all relevant information to everyone on this email instead?

Feel free to give me a call anytime.

Best Regards,
Michael

On Mon, Aug 5, 2019 at 5:15 PM Raymond Cline <recline@lancium.com> wrote:

All,

Has anyone received the Calpine forecast for CP days for this week? If so, could you please forward it? We are trying to manage power usage appropriately, but I'd like to know if we are looking at higher demands later in the week.

Cheers,
Ray

Raymond E. Cline Jr., PhD
Chief Computing Officer

--

(917) 833-2720

COMPANY CONFIDENTIALITY NOTICE: The information in this e-mail may be confidential and/or privileged and protected by work product immunity or other legal rules. No confidentiality or privilege is waived or lost by mis-transmission. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination, or copying of this e-mail and its attachments, if any, or the information contained herein is prohibited. If you have received this e-mail in error, please immediately notify the sender by return e-mail and delete this e-mail from your computer system.

From: Todd Wilson <Todd.Wilson@calpinesolutions.com>
To: "Michael McNamara " <michael.mcnamara@lancium.com>
Subject: Weighted Average Cost of Energy (WACOE) - if you fix power at \$33 and sell back at any price over \$100.
Date: Tue, 6 Aug 2019 19:51:10 +0000
Attachments: Lancium_Sellback_Sensitivity_Analysis.xlsx
Inline-Images: image001.png

Michael,

Results of the look-back are impressive...reduce your WACOE by \$10.53 per megawatt hour

Best Regards,

Todd

Todd R. Wilson, CEM
Sales Director, Calpine Energy Solutions

Cell: 919-414-7986

E-Mail: todd.wilson@calpinesolutions.com



COMPANY CONFIDENTIALITY NOTICE: The information in this e-mail may be confidential and/or privileged and protected by work product immunity or other legal rules. No confidentiality or privilege is waived or lost by mis-transmission. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination, or copying of this e-mail and its attachments, if any, or the information contained herein is prohibited. If you have received this e-mail in error, please immediately notify the sender by return e-mail and delete this e-mail from your computer system.

Bearbox v Lancium Trial Exhibit TX763
--

Lancium Hypothetical Invoice

\$	33.00	Contract Price
	2,928	Contract MWh - June - July 2019
\$	96,624	Original Invoice
	86	Sellback MWh
\$	(32,761)	Sellback Value
\$	63,863	Revised Invoice
\$	22.47	Revised WACOE
\$	10.53	WACOE improvement (detriment)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	\$	100.00	RT threshold																							
2		2.000	Contract Size (KW)																							
3																										
4																										
5	8/1/2019	\$ 14.44	\$ 12.79	\$ 12.35	\$ 11.51	\$ 11.87	\$ 13.26	\$ 13.82	\$ 14.52	\$ 16.85	\$ 18.18	\$ 19.34	\$ 26.44	\$ 37.99	\$ 47.56	\$ 88.23	\$ 57.69	\$ 33.36	\$ 26.19	\$ 24.30	\$ 23.85	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	43
6	8/2/2019	\$ 15.51	\$ 14.12	\$ 13.51	\$ 11.89	\$ 11.99	\$ 15.13	\$ 17.69	\$ 18.37	\$ 17.69	\$ 18.37	\$ 19.72	\$ 26.58	\$ 31.26	\$ 57.69	\$ 371.77	\$ 788.97	\$ 732.11	\$ 162.25	\$ 31.10	\$ 28.58	\$ 25.68	\$ 23.55	\$ 18.22	\$ 16.57	0
7	8/3/2019	\$ 17.17	\$ 15.35	\$ 14.53	\$ 14.36	\$ 15.44	\$ 15.97	\$ 16.45	\$ 17.32	\$ 17.62	\$ 18.36	\$ 19.83	\$ 21.07	\$ 22.08	\$ 24.96	\$ 24.64	\$ 28.10	\$ 32.25	\$ 40.59	\$ 47.82	\$ 34.57	\$ 25.68	\$ 24.02	\$ 21.27	\$ 19.82	4
8	8/4/2019	\$ 20.08	\$ 19.37	\$ 18.76	\$ 18.70	\$ 18.88	\$ 18.12	\$ 17.83	\$ 17.32	\$ 18.55	\$ 19.11	\$ 20.65	\$ 23.44	\$ 25.87	\$ 26.80	\$ 33.37	\$ 54.78	\$ 106.23	\$ 108.00	\$ 48.82	\$ 36.52	\$ 42.69	\$ 27.64	\$ 20.94	\$ 18.45	2
9	8/5/2019	\$ 16.81	\$ 15.72	\$ 14.79	\$ 14.36	\$ 14.64	\$ 15.77	\$ 17.12	\$ 17.98	\$ 20.40	\$ 22.56	\$ 28.91	\$ 54.73	\$ 56.61	\$ 139.04	\$ 693.59	\$ 2,029.85	\$ 1,385.38	\$ 370.90	\$ 56.80	\$ 31.72	\$ 27.04	\$ 20.88	\$ 18.97	\$ 17.85	5
10	6/7/2019	\$ 17.72	\$ 16.83	\$ 16.83	\$ 16.24	\$ 16.36	\$ 16.84	\$ 17.46	\$ 16.78	\$ 17.71	\$ 19.04	\$ 20.52	\$ 25.20	\$ 27.80	\$ 33.98	\$ 37.27	\$ 69.75	\$ 93.81	\$ 28.91	\$ 23.44	\$ 25.99	\$ 25.13	\$ 21.51	\$ 22.31	\$ 19.49	4
11	6/7/2019	\$ 17.69	\$ 16.69	\$ 16.06	\$ 15.74	\$ 15.72	\$ 16.31	\$ 16.92	\$ 18.04	\$ 18.84	\$ 19.73	\$ 22.44	\$ 25.09	\$ 27.51	\$ 41.88	\$ 203.28	\$ 397.48	\$ 313.69	\$ 206.13	\$ 48.46	\$ 36.33	\$ 34.55	\$ 30.90	\$ 21.45	\$ 18.23	4
12	6/8/2019	\$ 16.55	\$ 14.77	\$ 13.95	\$ 13.57	\$ 14.30	\$ 14.45	\$ 14.31	\$ 15.22	\$ 16.26	\$ 17.28	\$ 19.35	\$ 21.62	\$ 25.05	\$ 27.25	\$ 35.11	\$ 38.93	\$ 42.89	\$ 33.99	\$ 29.72	\$ 26.14	\$ 26.53	\$ 21.35	\$ 19.77	\$ 16.52	0
13	6/9/2019	\$ 16.12	\$ 14.34	\$ 13.55	\$ 13.78	\$ 14.76	\$ 14.43	\$ 12.48	\$ 13.25	\$ 15.18	\$ 17.05	\$ 19.39	\$ 20.27	\$ 19.92	\$ 13.23	\$ 13.23	\$ 13.75	\$ 14.23	\$ 12.88	\$ 12.49	\$ 13.26	\$ 15.08	\$ 13.15	\$ 14.03	\$ 12.56	0
14	6/10/2019	\$ 13.80	\$ 13.27	\$ 13.82	\$ 13.98	\$ 14.29	\$ 14.99	\$ 15.31	\$ 16.22	\$ 16.32	\$ 17.51	\$ 17.86	\$ 18.64	\$ 19.58	\$ 29.40	\$ 24.01	\$ 37.61	\$ 28.03	\$ 27.39	\$ 26.92	\$ 23.17	\$ 23.34	\$ 23.26	\$ 25.24	\$ 20.99	0
15	6/11/2019	\$ 21.10	\$ 19.57	\$ 18.17	\$ 19.04	\$ 18.88	\$ 19.05	\$ 19.27	\$ 18.44	\$ 18.83	\$ 18.93	\$ 19.47	\$ 19.52	\$ 19.66	\$ 21.20	\$ 22.12	\$ 22.56	\$ 22.03	\$ 19.90	\$ 19.59	\$ 19.00	\$ 19.50	\$ 19.01	\$ 16.27	\$ 15.40	0
16	6/12/2019	\$ 13.00	\$ 11.29	\$ 10.16	\$ 8.88	\$ 11.14	\$ 13.26	\$ 15.77	\$ 16.27	\$ 16.37	\$ 16.78	\$ 18.10	\$ 18.00	\$ 18.29	\$ 19.07	\$ 20.98	\$ 27.97	\$ 32.37	\$ 82.73	\$ 29.78	\$ 30.19	\$ 27.96	\$ 23.36	\$ 20.62	\$ 19.34	0
17	6/13/2019	\$ 17.81	\$ 16.29	\$ 15.93	\$ 15.75	\$ 15.75	\$ 16.22	\$ 16.87	\$ 17.64	\$ 18.80	\$ 18.60	\$ 19.20	\$ 20.81	\$ 34.40	\$ 33.53	\$ 28.24	\$ 31.63	\$ 34.92	\$ 23.26	\$ 19.17	\$ 24.05	\$ 19.42	\$ 16.89	\$ 17.20	\$ 15.99	0
18	6/14/2019	\$ 17.49	\$ 15.00	\$ 13.41	\$ 12.91	\$ 14.06	\$ 15.61	\$ 16.45	\$ 16.27	\$ 15.58	\$ 18.07	\$ 15.24	\$ 16.93	\$ 18.67	\$ 23.58	\$ 21.24	\$ 25.57	\$ 28.23	\$ 24.06	\$ 18.73	\$ 19.06	\$ 17.92	\$ 18.18	\$ 17.46	\$ 16.41	0
19	6/15/2019	\$ 15.03	\$ 12.92	\$ 11.07	\$ 9.81	\$ 8.10	\$ 9.94	\$ 11.72	\$ 13.31	\$ 14.40	\$ 11.93	\$ 14.57	\$ 20.89	\$ 32.89	\$ 20.62	\$ 22.07	\$ 23.84	\$ 24.26	\$ 20.03	\$ 18.72	\$ 18.34	\$ 18.67	\$ 18.38	\$ 20.73	\$ 20.03	0
20	6/16/2019	\$ 21.73	\$ 18.53	\$ 18.22	\$ 17.65	\$ 17.69	\$ 18.14	\$ 18.95	\$ 18.90	\$ 18.70	\$ 18.20	\$ 18.85	\$ 18.80	\$ 19.44	\$ 19.27	\$ 19.80	\$ 19.55	\$ 19.22	\$ 19.07	\$ 18.74	\$ 18.61	\$ 18.92	\$ 18.45	\$ 18.52	\$ 17.55	0
21	6/17/2019	\$ 16.30	\$ 15.56	\$ 15.59	\$ 16.10	\$ 16.42	\$ 17.00	\$ 17.65	\$ 17.36	\$ 17.29	\$ 17.32	\$ 17.75	\$ 18.39	\$ 19.99	\$ 23.67	\$ 27.65	\$ 44.89	\$ 29.05	\$ 45.46	\$ 29.94	\$ 24.73	\$ 23.14	\$ 23.26	\$ 21.35	\$ 18.67	0
22	6/18/2019	\$ 16.89	\$ 16.39	\$ 16.00	\$ 16.11	\$ 14.71	\$ 15.13	\$ 15.78	\$ 16.73	\$ 18.38	\$ 19.05	\$ 19.81	\$ 20.30	\$ 20.52	\$ 21.83	\$ 28.79	\$ 45.53	\$ 48.47	\$ 38.11	\$ 32.87	\$ 23.47	\$ 24.70	\$ 22.48	\$ 19.90	\$ 18.45	0
23	6/19/2019	\$ 17.33	\$ 16.63	\$ 17.74	\$ 17.34	\$ 16.70	\$ 15.92	\$ 17.58	\$ 17.63	\$ 18.68	\$ 18.87	\$ 20.85	\$ 21.70	\$ 32.75	\$ 41.90	\$ 38.67	\$ 48.31	\$ 70.80	\$ 57.94	\$ 36.96	\$ 93.29	\$ 33.17	\$ 31.95	\$ 22.26	\$ 19.45	0
24	6/20/2019	\$ 18.01	\$ 16.08	\$ 13.83	\$ 11.87	\$ 11.90	\$ 12.51	\$ 14.28	\$ 15.09	\$ 16.79	\$ 17.80	\$ 18.87	\$ 20.11	\$ 25.31	\$ 25.66	\$ 26.43	\$ 25.45	\$ 26.04	\$ 24.71	\$ 24.21	\$ 22.05	\$ 21.12	\$ 20.61	\$ 20.62	\$ 20.17	0
25	6/21/2019	\$ 18.21	\$ 15.42	\$ 14.70	\$ 14.14	\$ 14.00	\$ 14.89	\$ 15.88	\$ 15.96	\$ 17.11	\$ 17.49	\$ 19.00	\$ 19.35	\$ 22.31	\$ 29.95	\$ 23.33	\$ 21.71	\$ 21.44	\$ 22.35	\$ 21.33	\$ 19.97	\$ 19.42	\$ 19.41	\$ 20.57	\$ 19.94	0
26	6/22/2019	\$ 18.65	\$ 17.55	\$ 17.46	\$ 17.39	\$ 16.68	\$ 17.81	\$ 17.45	\$ 16.81	\$ 16.88	\$ 15.53	\$ 17.28	\$ 20.10	\$ 28.68	\$ 36.59	\$ 20.57	\$ 22.88	\$ 20.03	\$ 19.96	\$ 18.74	\$ 18.52	\$ 19.26	\$ 18.90	\$ 17.19	\$ 17.08	0
27	6/23/2019	\$ 15.08	\$ 15.44	\$ 15.44	\$ 14.45	\$ 14.45	\$ 13.88	\$ 13.81	\$ 15.22	\$ 17.42	\$ 17.67	\$ 17.86	\$ 19.20	\$ 20.74	\$ 47.41	\$ 50.70	\$ 20.23	\$ 19.61	\$ 19.09	\$ 18.59	\$ 24.29	\$ 26.53	\$ 37.26	\$ 21.00	\$ 20.51	4
28	6/24/2019	\$ 18.38	\$ 17.67	\$ 17.50	\$ 17.08	\$ 16.86	\$ 16.87	\$ 16.45	\$ 16.91	\$ 16.79	\$ 16.35	\$ 17.12	\$ 17.95	\$ 18.77	\$ 20.74	\$ 20.23	\$ 33.94	\$ 27.28	\$ 20.12	\$ 18.64	\$ 17.30	\$ 16.89	\$ 15.66	\$ 11.93	\$ 11.86	0
29	6/25/2019	\$ 9.59	\$ 0.50	\$ (0.75)	\$ 6.08	\$ 11.42	\$ 14.28	\$ 14.98	\$ 16.21	\$ 17.70	\$ 18.07	\$ 22.73	\$ 28.76	\$ 36.42	\$ 26.53	\$ 25.72	\$ 23.75	\$ 23.27	\$ 21.78	\$ 20.72	\$ 20.31	\$ 21.78	\$ 19.50	\$ 17.98	\$ 16.83	0
30	6/26/2019	\$ 15.08	\$ 14.54	\$ 11.38	\$ 8.82	\$ 11.38	\$ 13.04	\$ 16.46	\$ 17.25	\$ 18.33	\$ 17.88	\$ 18.77	\$ 21.11	\$ 20.89	\$ 21.92	\$ 21.05	\$ 22.75	\$ 23.27	\$ 21.78	\$ 20.72	\$ 20.31	\$ 21.78	\$ 19.50	\$ 17.98	\$ 16.83	0
31	6/27/2019	\$ 15.89	\$ 14.24	\$ 13.85	\$ 14.61	\$ 15.57	\$ 16.58	\$ 16.61	\$ 16.87	\$ 16.95	\$ 14.29	\$ 16.61	\$ 24.71	\$ 21.82	\$ 20.05	\$ 21.47	\$ 21.54	\$ 25.09	\$ 21.78	\$ 19.85	\$ 19.08	\$ 19.59	\$ 18.91	\$ 18.07	\$ 16.86	0
32	6/28/2019	\$ 15.88	\$ 14.49	\$ 13.31	\$ 11.76	\$ 13.09	\$ 15.00	\$ 15.80	\$ 15.18	\$ 14.38	\$ 16.47	\$ 20.00	\$ 24.13	\$ 25.34	\$ 26.80	\$ 27.50	\$ 25.52	\$ 23.85	\$ 22.44	\$ 20.95	\$ 20.57	\$ 21.34	\$ 19.51	\$ 17.52	\$ 16.96	0
33	6/29/2019	\$ 16.07	\$ 15.25	\$ 14.56	\$ 13.82	\$ 13.56	\$ 14.16	\$ 14.38	\$ 15.29	\$ 17.76	\$ 14.32	\$ 21.94	\$ 33.49	\$ 59.89	\$ 28.80	\$ 25.32	\$ 25.45	\$ 25.36	\$ 25.31	\$ 23.66	\$ 22.57	\$ 21.34	\$ 19.54	\$ 17.17	\$ 15.62	0
34	6/30/2019	\$ 14.97	\$ 12.98	\$ 11.07	\$ 9.66	\$ 10.41	\$ 12.09	\$ 13.41	\$ 13.99	\$ 15.81	\$ 16.85	\$ 17.47	\$ 18.64	\$ 19.96	\$ 22.05	\$ 23.15	\$ 24.68	\$ 24.53	\$ 24.40	\$ 24.69	\$ 20.67	\$ 19.66	\$ 18.52	\$ 17.54	\$ 16.01	0
35	7/1/2019	\$ 15.42	\$ 14.45	\$ 13.84	\$ 12.97	\$ 13.40	\$ 14.47	\$ 15.21	\$ 16.25	\$ 18.12	\$ 18.42	\$ 21.01	\$ 27.88	\$ 38.02	\$ 25.58	\$ 34.59	\$ 51.33	\$ 42.93	\$ 26.20	\$ 20.62	\$ 20.15	\$ 19.42	\$ 18.77	\$ 16.88	\$ 16.76	0
36	7/2/2019	\$ 16.23	\$ 15.99	\$ 15.79	\$ 16.19	\$ 16.52	\$ 16.84	\$ 17.12	\$ 18.51	\$ 18.09	\$ 17.34	\$ 25.20	\$ 33.29	\$ 173.62	\$ 39.48	\$ 55.64	\$ 62.68	\$ 34.70	\$ 24.97	\$ 22.71	\$ 21.71	\$ 21.88	\$ 19.91	\$ 18.05	\$ 16.71	1
37	7/3/2019	\$ 15.51	\$ 13.22	\$ 12.86	\$ 10.59	\$ 12.03	\$ 14.12	\$ 13.87	\$ 15.61	\$ 16.12	\$ 16.38	\$ 17.94	\$ 18.76	\$ 19.35	\$ 20.07	\$ 20.42	\$ 22.41	\$ 21.81	\$ 20.65	\$ 19.25	\$ 17.95	\$ 17.39	\$ 16.68	\$ 17.54	\$ 16.03	0
38	7/4/2019	\$ 14.45	\$ 12.96	\$ 12.49	\$ 11.75	\$ 11.56	\$ 13.12	\$ 13.41	\$ 15.10	\$ 16.32	\$ 16.49	\$ 17.14	\$ 18.80	\$ 20.23	\$ 21.26	\$ 21.50	\$ 22.45	\$ 21.42	\$ 20.42	\$ 19.32	\$ 18.23	\$ 17.42	\$ 16.68	\$ 16.77	\$ 15.51	0
39	7/5/2019	\$ 14.74	\$ 14.07	\$ 14.24	\$ 13.60	\$ 13.86	\$ 14.19	\$ 12.93	\$ 13.80	\$ 14.00	\$ 13.80	\$ 16.98	\$ 19.92	\$ 25.07	\$ 26.33	\$ 25.54	\$ 30.31	\$ 31.01	\$ 26.78	\$ 24.74	\$ 22.60	\$ 23.22	\$ 20.24	\$ 18.33	\$ 16.86	0
40	7/6/2019	\$ 16.97	\$ 15.09	\$ 14.75	\$ 14.08	\$ 13.49	\$ 13.30	\$ 13.55	\$ 14.77	\$ 17.01	\$ 18.90	\$ 23.25	\$ 25.34	\$ 29.81	\$ 29.21	\$ 32.03	\$ 141.11	\$ 64.64	\$ 30.62	\$ 23.82	\$ 22.08	\$ 23.38	\$ 23.21	\$ 20.21	\$ 19.12	1
41	7/7/2019	\$ 19.63	\$ 18.47	\$ 17.25	\$ 16.25	\$ 15.74	\$ 15.26	\$ 15.38	\$ 16.11	\$ 17.88	\$ 19.53	\$ 23.57	\$ 29.58	\$ 104.94	\$ 37.63	\$ 50.32	\$ 47.12	\$ 25.82	\$ 25.73	\$ 24.97	\$ 25.19	\$ 33.98	\$ 27.24	\$ 23.98	\$ 23.29	1
42	7/8/2019	\$ 20.92	\$ 18.54	\$ 17.04	\$ 15.91	\$ 15.87	\$ 16.00	\$ 16.70	\$ 18.28	\$ 19.05	\$ 20.58	\$ 24.60	\$ 26.63	\$ 36.37	\$ 27.78	\$ 30.25	\$ 27.12	\$ 24.05	\$ 22.31	\$ 19.80	\$ 20.34	\$ 19.97	\$ 18.21	\$ 15.48	\$ 12.84	0
43	7/9/2019	\$ 12.03	\$ 8.37	\$ 2.49	\$ 2.49	\$ 3.23	\$ 9.89	\$ 11.71	\$ 13.97	\$ 15.38	\$ 16.87	\$ 19.68	\$ 23.88	\$ 27.99	\$ 36.91	\$ 87.84	\$ 264.21	\$ 434.26	\$ 108.17	\$ 32.49	\$ 27.98	\$ 26.30	\$ 23.31	\$ 20.34	\$ 18.33	3
44	7/10/2019	\$ 18.21	\$ 17.94	\$ 17.50	\$ 16.54	\$ 16.03																				

	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
1		8/1/2019	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
2		8/2/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
3		8/3/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
4		8/4/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
5		8/5/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
6		8/6/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
7		8/7/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
8		8/8/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
9		8/9/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
10		8/10/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
11		8/11/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
12		8/12/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
13		8/13/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
14		8/14/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
15		8/15/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
16		8/16/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
17		8/17/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
18		8/18/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
19		8/19/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
20		8/20/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
21		8/21/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
22		8/22/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
23		8/23/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
24		8/24/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
25		8/25/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
26		8/26/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
27		8/27/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
28		8/28/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
29		8/29/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
30		8/30/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
31		8/31/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
32		9/1/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
33		9/2/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
34		9/3/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
35		9/4/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
36		9/5/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
37		9/6/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
38		9/7/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
39		9/8/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
40		9/9/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
41		9/10/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
42		9/11/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
43		9/12/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
44		9/13/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
45		9/14/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
46		9/15/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
47		9/16/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
48		9/17/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
49		9/18/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
50		9/19/2019	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000

	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
1			#####																							
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										
21																										
22																										
23																										
24																										
25																										
26																										
27																										
28																										
29																										
30																										
31																										
32																										
33																										
34																										
35																										
36																										
37																										
38																										
39																										
40																										
41																										
42																										
43																										
44																										
45																										
46																										
47																										
48																										
49																										
50																										
51																										
52																										
53																										
54																										
55																										
56																										
57																										
58																										
59																										
60																										
61																										
62																										
63																										
64																										
65																										

Appx12478

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Eric Kutscha <eric.kutscha@lancium.com>, Jon Cohen <jon.cohen@lancium.com>, Raymond Cline <recline@lancium.com>

Subject: Fwd: BearBox 20' product details and supporting documentation

Date: Thu, 09 May 2019 11:35:32 -0500

Importance: Normal

Attachments: BearBox_Product_Details_Summary_v1.pdf; Permatron_Spec_Sheet.pdf; CamFil_Spec_Sheet.pdf; JandD_Spec_Sheet.pdf; exelon4_modeling_05092019.xlsx

We met this guy at the fidelity conference. He seemed very competent. His box seems very expensive though.

----- Forwarded message -----

From: **Austin Storms** <austin@bearbox.io>

Date: Thu, May 9, 2019 at 9:32 AM

Subject: BearBox 20' product details and supporting documentation

To: <michael.mcnamara@lancium.com>

Hey Michael,

See attached for the 20' BearBox product details and some supporting docs. I've also attached some recent modeling data from one of the Exelon wind sites (based on publicly available marketplace data) - I can model for any pricing node you guys might be interested in reviewing.

Let me know if you have any questions!

Talk soon,

A

Austin M. Storms
BearBox, LLC
[611 O' Keefe Avenue](https://www.bearbox.io)
[New Orleans, LA 70113](https://www.bearbox.io)
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

--

(917) 833-2720

Bearbox v Lancium Trial Exhibit TX770
--

BOX 'D1' CAPITAL SPEND

Status of Demo Box 1 spending plan

- Box 1 capex to date is below our forecast, however the design spec did not include fire suppression and evaporative cooling
- Field deployment will also require spending on electrical equipment (transformer, switchgear) which is not reflected in the cost to date
- On an "apples to apples" basis, Box 1 would likely come in at around \$230k, within 10-15% of our forecast
- We expect the next generation design to come in at xx – xxx / box

Box 1 Capex (In thousands)	9/30/18 Actual	Forecast
JV Driver	87.7	
Ready Engineering (Electrical design)	73.7	
Shipping	5.1	
Total Box 1 Capex to Date	166.5	
JV Driver final invoice	15.0	
Fire Suppression	25.0	
Transformers / Switchgear	20.0	
Estimated Remaining Spend	60.0	
Box 1 Total Capex (Estimated)	226.5	200.0

BearBox 20' product details and supporting documentation

From: Austin Storms <austin@bearbox.io>
To: michael.mcnamara@lancium.com
Date: Thu, 09 May 2019 11:32:01 -0500
Attachments: BearBox Product Details Summary v1.pdf (708.12 kB); Permatron_Spec_Sheet.pdf (1.23 MB); CamFil_Spec_Sheet.pdf (379.28 kB); JandD_Spec_Sheet.pdf (2.11 MB); exelon4_modeling_05092019.xlsx (92.14 kB)

Hey Michael,

See attached for the 20' BearBox product details and some supporting docs. I've also attached some recent modeling data from one of the Exelon wind sites (based on publicly available marketplace data) - I can model for any pricing node you guys might be interested in reviewing.

Let me know if you have any questions!

Talk soon,

A

Austin M. Storms
BearBox, LLC
611 O' Keefe Avenue
New Orleans, LA 70113
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

Bearbox v Lancium Trial Exhibit TX887

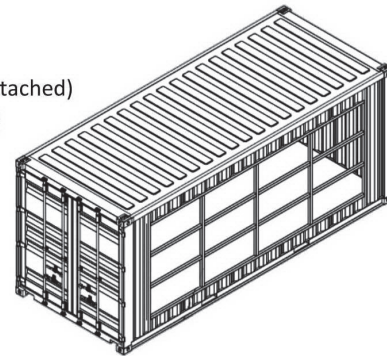
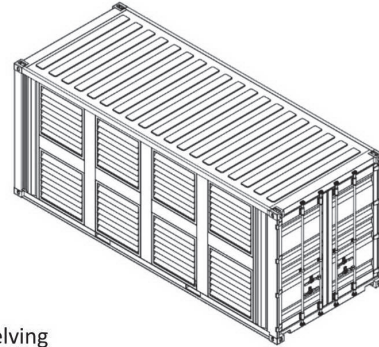
BB00000090



BearBox

Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar)

- **Physical Dimensions**
 - Exterior: 20'L x 8' W x 8'6"H
 - Interior: 19'4"L x 7'8"W x 7'9"H
 - Door Opening: 7'8"W x 7'5"H
 - Weight: 4,900 lbs. + installed equipment
- **Electrical System**
 - 3-Phase, 4-Wire 415Y/240v
 - Remote dual-outlet control PDUs (64.8kW total)
 - All network infrastructure on UPS/battery backup
 - ~373kW max load
- **Physical Rack System**
 - Custom laser cut aluminum frame with stainless wire deck shelving
 - Adjustable in 1" increments
- **Cooling System**
 - Convection air cooled
 - (8) 10,100 CFM direct-drive, single-phase exhaust fans (see attached)
 - Temperature controlled/software automation, remote on/off
- **Air Filtration System**
 - Option 1: Permatron Model U2 (see attached)
 - Option 2: Camfil V-Bank Glide/Pack (see attached)
 - Intake-side adjustable pitch weather shield
- **Total Designed Hashrate**
 - 272 miners @ 14.5 TH/s each
 - 3.9 PH/s total
- **Network**
 - Cat5e ethernet
 - 48-port unmanaged switches (CISCO, TP-Link, or other)
 - On-site WAN or satellite (varies by location)
- **Software Management**
 - Local cgminer watchdog
 - PostgreSQL database miner logging
 - PDU/relay mapping (full automation)
 - Optional real-time breakeven monitoring (renewable marketplace data)
 - SMTP email alerts (restart, reboot, and maintenance required)
- **Summary**
 - BearBox V20S (3.9 PH/s @ ~373kW max load)
 - Does **NOT** include miners or exterior electrical infrastructure (transformer)
 - Price - \$86,791.51 (\$94,766.33 after 9.2% sales tax)

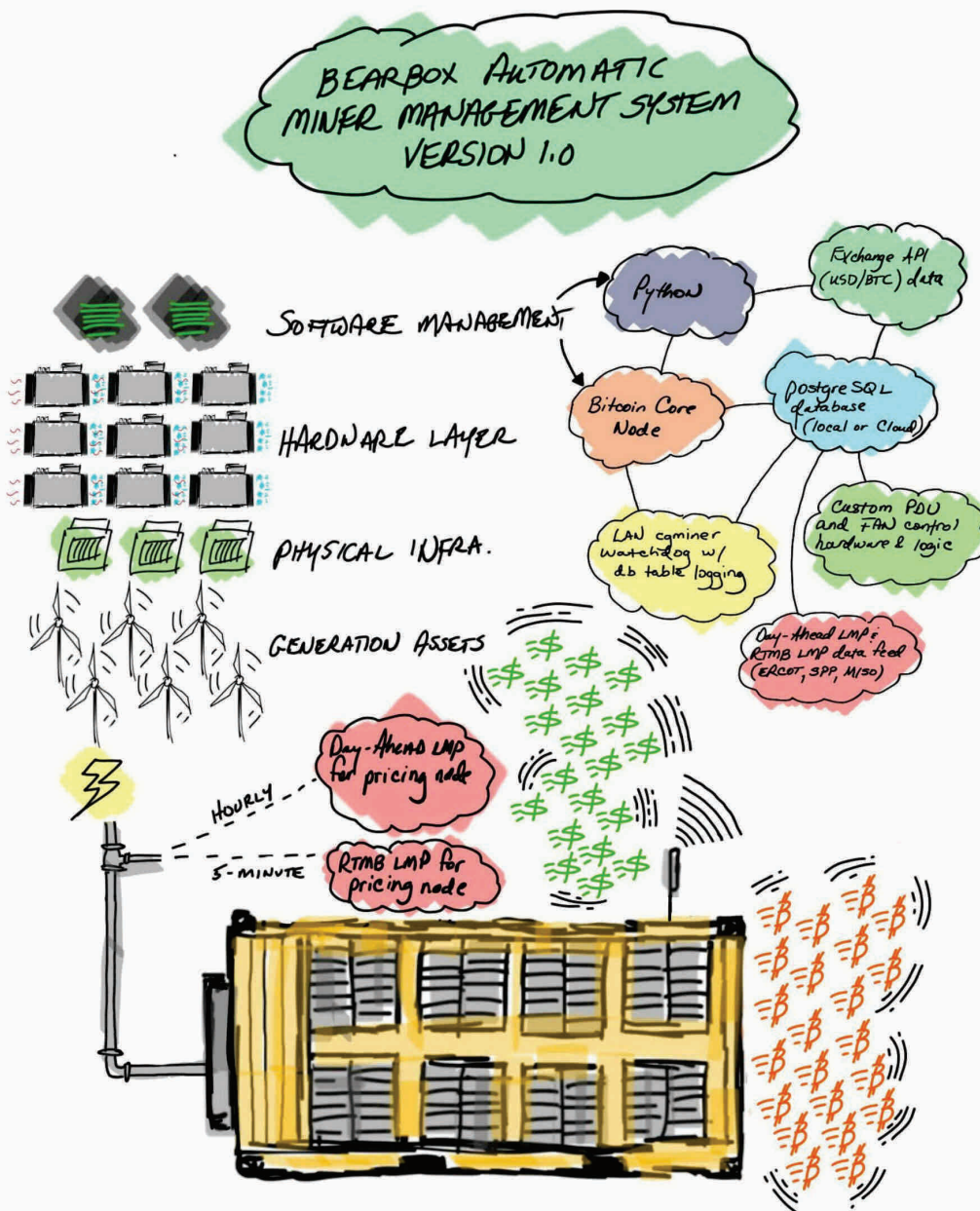


BB00000091



BearBox

Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar) – cont.



BB00000092



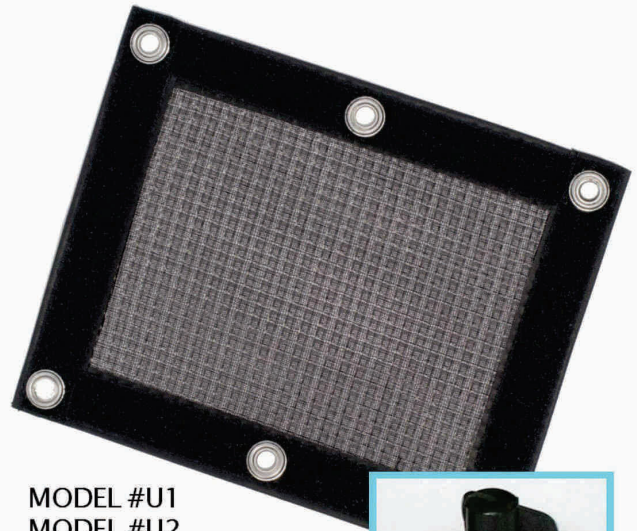
PreVent® Model U/BHA Flexible Frame Air Intake Filter

Acts as a primary pre-filtration defense to help prevent the damage and extensive maintenance that large volumes of dirt and debris can cause. Model U and BHA are custom designed and manufactured to fit any sized air intake.

Model U filter is constructed of washable three-dimensional electrostatic polypropylene media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model U1 contains one layer of media or Model U2 contains two layers of media depending on the application's environmental particle size.

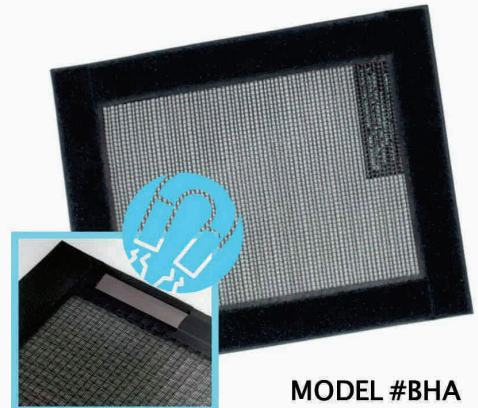
Model BHA filter is constructed of black PVC coated polyester high abrasion media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model BHA contains one layer of media.

- Can be affixed to unit with hook/loop stripping, grommets with mount clips, elastic bungee hooks or magnetic stripping
- Fits any equipment, specify size
- Sewn 2.5" vinyl edge (folded to 1-1/4") is standard for flexible filters 0-2000 square inches
- Sonic welded edges also available as frame option
- UV protected black media
- U/L Classified as to Flammability Only
- 5 Year Warranty



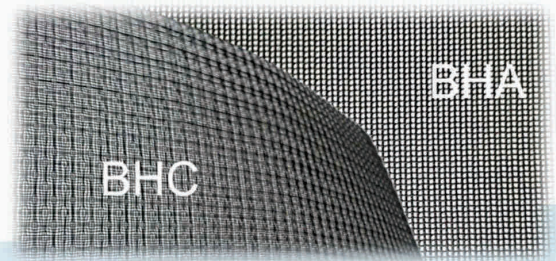
MODEL #U1
MODEL #U2

Plastic mount clips available for easy installation.



MODEL #BHA

Magnetic stripping inside vinyl edge available for easy installation.



	U1	U2	BHA
Avg. Arrestance Efficiency	42%	72%	N/A
Dust Holding Capacity	67 gm.	100 gm	N/A
Initial Air Flow Resistance	0.02" w.g.	0.05" w.g.	0.02" w.g.

www.permatron.com
1-800-882-8012

Filter Frames & Housings

Housings (ASHRAE)

V-Bank Glide/Pack®



Advantages

- V-bank design reduces filter velocity and filter pressure drop by up to 60%, saving energy
- Increases life of filters up to four times

Typical applications: Single-stage V-bank filter housing for commercial, industrial, manufacturing or medical facilities.

Construction: 16-gauge galvanized steel with pre-drilled standing flanges, dual access doors, UV-resistant door knobs, door and filter sealing gasketing.

Filters: Any 2" deep filter.

Performance: Less than 1/2 of 1% leakage guaranteed. Rated airflow 500 fpm, may be operated to 625 fpm. Standard model operational to $\pm 6.0^\circ$ w.g.

Additional data: Sizes available from 4 filters high to 6 filters wide. Housing is weatherproof for outside installation without modification. Includes pneumatic fitting for static pressure gauge.

See Literature 2421 for more details.

Dimensions and Airflow Capacity (cfm)

Number of filters wide	Height (inches)	1/2 Filter wide	1 Filter wide	1-1/2 Filters wide	2 Filters wide	2-1/2 Filters wide	3 Filters wide	3-1/2 Filters wide	4 Filters wide	4-1/2 Filters wide	5 Filters wide	5-1/2 Filters wide	6 Filters wide	Housing depth (inches)
1/2	15.25	-	2,000	-	4,000	-	6,000	-	8,000	-	10,000	-	12,000	28.00
1	27.25	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	
1-1/2	39.50	-	6,000	-	12,000	-	18,000	-	24,000	-	30,000	-	36,000	
2	51.50	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	
2-1/2	63.75	-	10,000	-	20,000	-	30,000	-	40,000	-	50,000	-	60,000	
3	75.75	6,000	12,000	18,000	24,000	30,000	36,000	42,000	48,000	54,000	60,000	66,000	72,000	
3-1/2	88.00	-	14,000	-	28,000	-	42,000	-	54,000	-	70,000	-	84,000	
4	100.00	8,000	16,000	24,000	32,000	40,000	48,000	56,000	60,000	72,000	80,000	88,000	96,000	
Width (inches)		12	24	36	48	60	72	84	96	108	120	132	144	

As part of our program for continuous improvement, Camfil reserves the right to change specifications without notice. 2018-12-07

Conover NC, Corcoran CA, Crystal Lake IL, Riverdale NJ,
Washington NC, Concord Ontario
United States Tel: (866) 422-6345, Canada Tel: (800) 976-9382
www.camfil.com



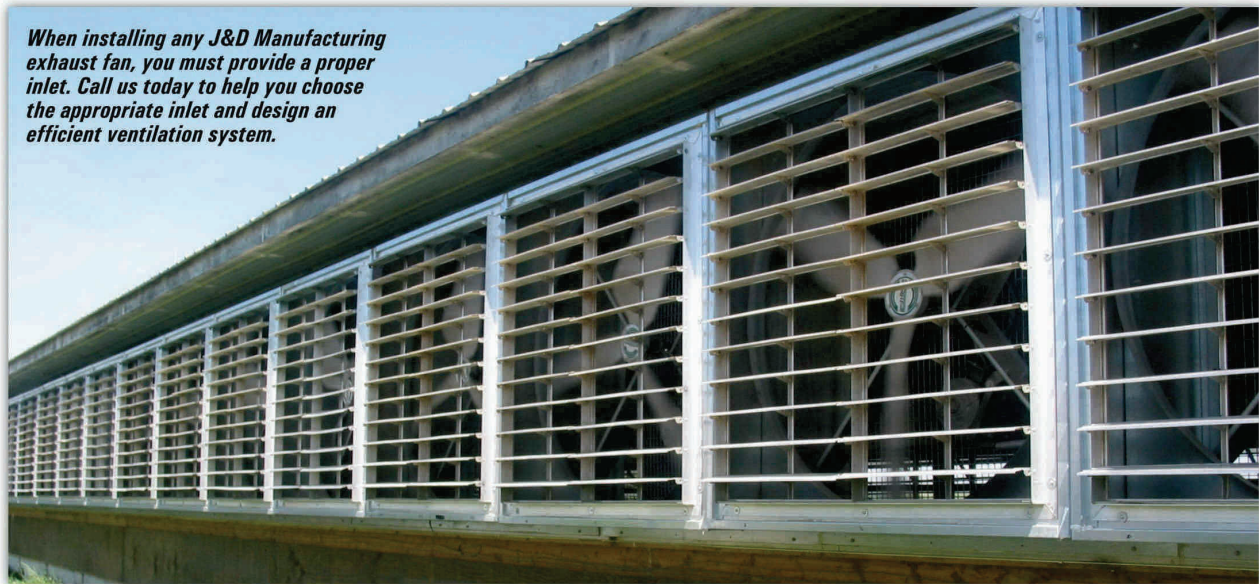
BB00000094

Total System Solutions

Wall Master Exhaust Fan

J&D Manufacturing's Wall Master exhaust fan offers high volume output and smooth, efficient operation. The heavy duty 18 gauge galvanized housing is strong, compact, and easy to install. J&D's Wall Master is a dependable fan suited for nearly any application including agricultural buildings, greenhouses, and warehouses.

When installing any J&D Manufacturing exhaust fan, you must provide a proper inlet. Call us today to help you choose the appropriate inlet and design an efficient ventilation system.



Features

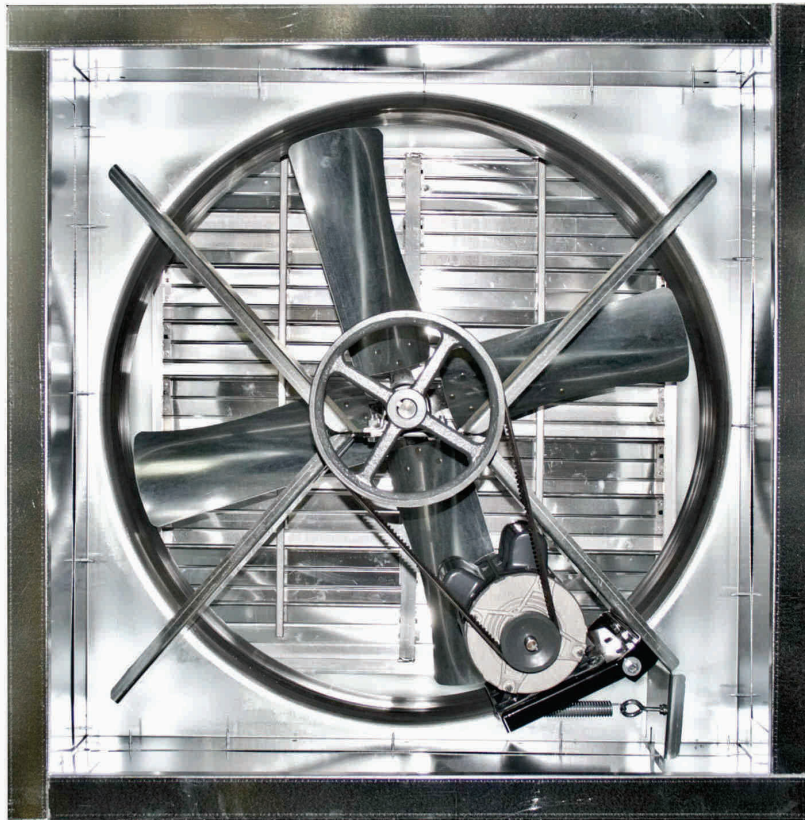
- Available in 36" and 50" models
- Heavy duty 18 gauge galvanized housing
- Rugged X-frame for added stability on belt drive models
- Aluminum shutters with tie bar to prevent flapping and locking open
- 1" x 2" removable wire mesh guards are hot dip galvanized after welding
- Poly guard clips to reduce vibration for quiet performance
- 3, 4 or 6 blade galvanized propeller is balanced for smooth operation
- **Lifetime Warranty** on 3 blade cast aluminum props, available on select 50" models
- Bearings are eccentric locking, pre-lubricated, permanently sealed and rubber mounted for smooth operation and reduced blade fatigue, and are covered by a **Three Year Warranty**
- Spring belt tensioning system reduces bounce at startup on all belt driven models
- Optional weather hood available for protection from severe wind and weather
- Totally enclosed, maintenance-free, high-efficiency motors have completely sealed ball bearings, and are covered by a **Two Year Warranty**



⚠ WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

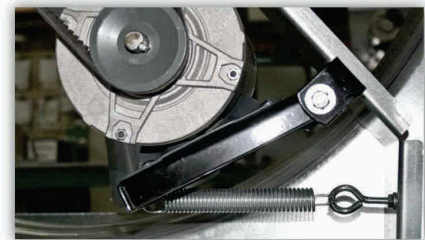
Wall Master Exhaust Fan



Heavy-duty X-frame - (Shown without rear guard for illustration purposes only)



Removable 12 Gauge 1" x 2" wire mesh guards are hot dip galvanized after welding. The guard is attached to the housing with poly guard clips to reduce noise and vibration.



Belt drive models include a heavy duty spring belt tensioner to reduce bounce at startup and provide uniform loading to increase the life of the belt and maintain high efficiency.

Part#	Size	Phs	Spd	@0.05" SP		Drive	Prop
				CFM	Watt		
Single Phase							
VF36DM	36"	1	1	10,100	19.5	Direct	3-Glv
VF36GG	36"	1	1	9,000	18.1	Belt	4-Glv
VF36GG1	36"	1	1	11,500	15.2	Belt	4-Glv
VF36GG2	36"	1	2	11,400	15.3	Belt	4-Glv
VF50GG	50"	1	1	21,000	18.9	Belt	3-Glv
VF50GG6	50"	1	1	21,300	20.0	Belt	6-Glv
VF50GGCA	50"	1	1	20,900	18.8	Belt	3-CA
Three Phase							
VF36DM3CF	36"	3	1	10,000	19.6	Direct	3-Glv
VF36GG3	36"	3	1	11,400	15.1	Belt	4-Glv
VF503GG	50"	3	1	21,000	18.9	Belt	3-Glv
VF503GG6	50"	3	1	21,200	20.2	Belt	6-Glv
VF503GGCA	50"	3	1	20,900	18.8	Belt	3-CA
OSHA requires these fans to be mounted 7' above the floor							

OSHA requires these fans to be mounted 7' above the floor

Fan Size	Rough Opening
36"	41"W x 41"H
50"	54¾"W x 54¾"H

Optional Weather Hood

If Wall Master is mounted with the shutter side of the fan flush to an exterior wall a weather hood may be used on the exterior shutter side of the Wall Master to further protect the fan and shutter from severe winds and harsh weather.



Wall Master Fan Size	Weather Hood Part#
36"	VFT140860
50"	VFT140861

⚠ WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

FILE PRODUCED NATIVELY

CONFIDENTIAL

Appx13330

BB00000097

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
2	5698.24	574867	0.0883609	5/6/19 11:37	0.0292715	0.9056602	4.81358E+13	2.6928794	6.70217E+12	0.0283682	0.8777121	2.6928794
3	5704.01	574867	0.0884504	5/6/19 11:42	0.0292715	0.9056602	4.81358E+13	2.6956062	6.70217E+12	0.0256247	0.7928282	2.6956062
4	5721.16	574868	0.0878003	5/6/19 11:47	0.0292715	0.9056602	4.86381E+13	2.6757929	6.70217E+12	0.0266466	0.8244458	2.6757929
5	5712.77	574868	0.0876715	5/6/19 11:52	0.0292715	0.9056602	4.86381E+13	2.6718689	6.70217E+12	0.0294184	0.9102053	2.6718689
6	5702.98	574868	0.0875213	5/6/19 11:57	0.0292715	0.9056602	4.86381E+13	2.6672901	6.70217E+12	0.2156316	6.6716417	6.6716417
7	5711.53	574868	0.0876525	5/6/19 12:02	0.0319112	0.9873325	4.86381E+13	2.671289	6.70217E+12	0.4257598	13.1730082	13.1730082
8	5719.99	574868	0.0877823	5/6/19 12:08	0.0319112	0.9873325	4.86381E+13	2.6752457	6.70217E+12	0.2947237	9.1187513	9.1187513
9	5711.93	574869	0.0870193	5/6/19 12:13	0.0319112	0.9873325	4.89954E+13	2.6519913	6.70217E+12	0.1560219	4.8273176	4.8273176
10	5708.01	574871	0.0868646	5/6/19 12:18	0.0319112	0.9873325	4.9049E+13	2.6472769	6.70217E+12	0.0253548	0.7844775	2.6472769
11	5701.9	574871	0.0867716	5/6/19 12:23	0.0319112	0.9873325	4.9049E+13	2.6444432	6.70217E+12	0.027036	0.8364958	2.6444432
12	5698.51	574871	0.08672	5/6/19 12:28	0.0319112	0.9873325	4.9049E+13	2.642871	6.70217E+12	0.026636	0.8241178	2.642871
13	5705.99	574875	0.0875317	5/6/19 13:07	0.0316965	0.9806897	4.86579E+13	2.6676082	6.70217E+12	0.0297482	0.9204093	2.6676082
14	5706.72	574875	0.0875429	5/6/19 13:11	0.0316965	0.9806897	4.86579E+13	2.6679495	6.70217E+12	0.0283545	0.8772882	2.6679495
15	5702.01	574875	0.0874707	5/6/19 13:16	0.0316965	0.9806897	4.86579E+13	2.6657475	6.70217E+12	0.0263671	0.8157981	2.6657475
16	5703.44	574876	0.0881359	5/6/19 13:21	0.0316965	0.9806897	4.83028E+13	2.6860221	6.70217E+12	0.027458	0.8495505	2.6860221
17	5705.99	574876	0.0881753	5/6/19 13:26	0.0316965	0.9806897	4.83028E+13	2.687223	6.70217E+12	0.0295297	0.9136489	2.687223
18	5706.85	574876	0.0881886	5/6/19 13:31	0.0316965	0.9806897	4.83028E+13	2.687628	6.70217E+12	0.029437	0.9107808	2.687628
19	5726.52	574876	0.0884926	5/6/19 13:36	0.0316965	0.9806897	4.83028E+13	2.6968915	6.70217E+12	0.0294468	0.911084	2.6968915
20	5727.41	574876	0.0885064	5/6/19 13:41	0.0316965	0.9806897	4.83028E+13	2.6973107	6.70217E+12	0.0291977	0.9033768	2.6973107
21	5742.95	574876	0.0887465	5/6/19 13:46	0.0316965	0.9806897	4.83028E+13	2.7046292	6.70217E+12	0.0461903	1.4291279	2.7046292
22	5734.03	574876	0.0886086	5/6/19 13:51	0.0316965	0.9806897	4.83028E+13	2.7004284	6.70217E+12	0.0300478	0.9296789	2.7004284
23	5731.45	574876	0.0885688	5/6/19 13:56	0.0316965	0.9806897	4.83028E+13	2.6992133	6.70217E+12	0.023358	0.7226965	2.6992133
24	5739.99	574877	0.0901743	5/6/19 14:01	0.0292446	0.9048279	4.75135E+13	2.7481417	6.70217E+12	0.0252541	0.7813619	2.7481417
25	5749.1	574877	0.0903174	5/6/19 14:06	0.0292446	0.9048279	4.75135E+13	2.7525033	6.70217E+12	0.022385	0.6925919	2.7525033
26	5732.99	574877	0.0900643	5/6/19 14:11	0.0292446	0.9048279	4.75135E+13	2.7447903	6.70217E+12	0.0278815	0.8626536	2.7447903
27	5722.65	574878	0.0904991	5/6/19 14:16	0.0292446	0.9048279	4.71999E+13	2.7580421	6.70217E+12	0.0276273	0.8547887	2.7580421
28	5719.43	574878	0.0904482	5/6/19 14:21	0.0292446	0.9048279	4.71999E+13	2.7564902	6.70217E+12	0.0401146	1.2411457	2.7564902
29	5727.52	574878	0.0905761	5/6/19 14:26	0.0292446	0.9048279	4.71999E+13	2.7603892	6.70217E+12	0.0357633	1.1065165	2.7603892
30	5719.12	574878	0.0904433	5/6/19 14:31	0.0292446	0.9048279	4.71999E+13	2.7563408	6.70217E+12	0.0216376	0.6694673	2.7563408
31	5720.06	574880	0.0904384	5/6/19 14:37	0.0292446	0.9048279	4.72102E+13	2.7561911	6.70217E+12	0.0206897	0.6401393	2.7561911
32	5730.64	574880	0.0906057	5/6/19 14:42	0.0292446	0.9048279	4.72102E+13	2.7612891	6.70217E+12	0.0212322	0.6569243	2.7612891
33	5734.69	574880	0.0906697	5/6/19 14:47	0.0292446	0.9048279	4.72102E+13	2.7632406	6.70217E+12	0.0214839	0.6647119	2.7632406
34	5739.31	574881	0.090775	5/6/19 14:52	0.0292446	0.9048279	4.71935E+13	2.7664494	6.70217E+12	0.0212921	0.6584776	2.7664494
35	5736.72	574882	0.0910352	5/6/19 14:57	0.0292446	0.9048279	4.70373E+13	2.7743811	6.70217E+12	0.020696	0.6403342	2.7743811
36	5741.99	574883	0.0905084	5/6/19 15:02	0.0212846	0.6585455	4.73545E+13	2.7583257	6.70217E+12	0.0203623	0.6300096	2.7583257
37	5733.24	574885	0.0890821	5/6/19 15:07	0.0212846	0.6585455	4.80495E+13	2.7148565	6.70217E+12	0.0198016	0.6126615	2.7148565
38	5724.73	574886	0.0885552	5/6/19 15:12	0.0212846	0.6585455	4.82535E+13	2.6988006	6.70217E+12	0.0190006	0.5878786	2.6988006
39	5709.73	574886	0.0883232	5/6/19 15:17	0.0212846	0.6585455	4.82535E+13	2.6917292	6.70217E+12	0.0184907	0.5721023	2.6917292
40	5678.11	574887	0.088385	5/6/19 15:22	0.0212846	0.6585455	4.79528E+13	2.6936119	6.70217E+12	0.023136	0.7158278	2.6936119
41	5683.73	574888	0.0873487	5/6/19 15:27	0.0212846	0.6585455	4.85697E+13	2.6620299	6.70217E+12	0.0165815	0.5130316	2.6620299
42	5681.84	574891	0.0832705	5/6/19 15:32	0.0212846	0.6585455	5.09315E+13	2.5377429	6.70217E+12	0.0157946	0.4886849	2.5377429
43	5697.16	574891	0.083495	5/6/19 15:37	0.0212846	0.6585455	5.09315E+13	2.5445855	6.70217E+12	0.0722406	2.2351242	2.5445855
44	5684.36	574892	0.0835678	5/6/19 15:42	0.0212846	0.6585455	5.07728E+13	2.5468044	6.70217E+12	0.025128	0.7774603	2.5468044
45	5683.95	574894	0.0819393	5/6/19 15:47	0.0212846	0.6585455	5.17781E+13	2.4971743	6.70217E+12	0.0141482	0.4377453	2.4971743
46	5700.28	574894	0.0821747	5/6/19 15:52	0.0212846	0.6585455	5.17781E+13	2.5043487	6.70217E+12	0.0158794	0.4913086	2.5043487
47	5700.01	574895	0.0825354	5/6/19 15:57	0.0212846	0.6585455	5.15494E+13	2.515341	6.70217E+12	0.0142467	0.4407929	2.515341
48	5696.94	574897	0.0824036	5/6/19 16:02	0.0282033	0.8726101	5.16041E+13	2.5113225	6.70217E+12	0.0193804	0.5996296	2.5113225
49	5700.76	574897	0.0824588	5/6/19 16:07	0.0282033	0.8726101	5.16041E+13	2.5130065	6.70217E+12	0.0145181	0.44919	2.5130065
50	5684.53	574897	0.0822241	5/6/19 16:12	0.0282033	0.8726101	5.16041E+13	2.505852	6.70217E+12	0.0157287	0.486646	2.505852
51	5689.74	574897	0.0822994	5/6/19 16:18	0.0282033	0.8726101	5.16041E+13	2.5081486	6.70217E+12	0.0162324	0.5022305	2.5081486
52	5682.26	574897	0.0821912	5/6/19 16:23	0.0282033	0.8726101	5.16041E+13	2.5048513	6.70217E+12	0.0157041	0.4858849	2.5048513
53	5686.59	574898	0.0828228	5/6/19 16:28	0.0282033	0.8726101	5.12496E+13	2.5240987	6.70217E+12	0.0148626	0.4598488	2.5240987
54	5681.45	574899	0.0812957	5/6/19 16:33	0.0282033	0.8726101	5.10957E+13	2.5294123	6.70217E+12	0.0141661	0.4382991	2.5294123
55	5684.86	574899	0.0830469	5/6/19 16:38	0.0282033	0.8726101	5.10957E+13	2.5309305	6.70217E+12	0.0039202	0.121291	2.5309305
56	5679.5	574899	0.0829686	5/6/19 16:43	0.0282033	0.8726101	5.10957E+13	2.5285442	6.70217E+12	0.0059038	0.1826636	2.5285442
57	5681.53	574901	0.0836257	5/6/19 16:48	0.0282033	0.8726101	5.07124E+13	2.5485671	6.70217E+12	0.0056964	0.1762466	2.5485671
58	5689.99	574902	0.0837969	5/6/19 16:53	0.0282033	0.8726101	5.06841E+13	2.5537859	6.70217E+12	0.0098804	0.3056996	2.5537859
59	5691.01	574903	0.0831196	5/6/19 16:58	0.0282033	0.8726101	5.11063E+13	2.5331438	6.70217E+12	0.0072672	0.2248472	2.5331438
60	5699.02	574904	0.0827156	5/6/19 17:03	0.0245371	0.7591779	5.14281E+13	2.5208339	6.70217E+12	0.0100674	0.3114854	2.5208339
61	5700.57	574905	0.0827554	5/6/19 17:08	0.0245371	0.7591779	5.14174E+13	2.5220451	6.70217E+12	0.0086099	0.2663903	2.5220451
62	5695.51	574906	0.0812506	5/6/19 17:13	0.0245371	0.7591779	5.23232E+13	2.4761856	6.70217E+12	0.0053846	0.1665995	2.4761856
63	5694.8	574907	0.0809439	5/6/19 17:18	0.0245371	0.7591779	5.25149E+13	2.4668388	6.70217E+12	0.0017196	0.0532044	2.4668388
64	5695.29	574907	0.0809509	5/6/19 17:23	0.0245371	0.7591779	5.25149E+13	2.467051	6.70217E+12	0.0048459	0.1499321	2.467051
65	5711.94	574907	0.0811875	5/6/19 17:28	0.0245371	0.7591779	5.25149E+13	2.4742634	6.70217E+12	0.0072046	0.2229103	2.4742634
66	5717.52	574908	0.0815164	5/6/19 17:33	0.0245371	0.7591779	5.23541E+13	2.4842862	6.70217E+12	0.0173188	0.5358437	2.4842862
67	5717.19	574908	0.0815117	5/6/19 17:38	0.0245371	0.7591779	5.23541E+13	2.4841428	6.70217E+12	0.0107967	0.3340499	2.4841428
68	5709.94	574908	0.0814083	5/6/19 17:43	0.0245371	0.7591779	5.23541E+13	2.4809927	6			

	A	B	C	D	E	F	G	H	I	J	K	L
96	5763.99	574916	0.0869032	5/6/19 20:05	0.0241251	0.7464306	4.9508E+13	2.6484528	6.70217E+12	-0.0003708	-0.0114726	2.6484528
97	5769.68	574916	0.086989	5/6/19 20:10	0.0241251	0.7464306	4.9508E+13	2.6510673	6.70217E+12	0.0062241	0.1925737	2.6510673
98	5769.14	574917	0.0882187	5/6/19 20:15	0.0241251	0.7464306	4.88133E+13	2.6885453	6.70217E+12	0.0116013	0.3589442	2.6885453
99	5755.39	574917	0.0880085	5/6/19 20:20	0.0241251	0.7464306	4.88133E+13	2.6821375	6.70217E+12	0.0009813	0.0303614	2.6821375
100	5754.1	574917	0.0879887	5/6/19 20:25	0.0241251	0.7464306	4.88133E+13	2.6815363	6.70217E+12	-0.0161407	-0.4993933	2.6815363
101	5771.1	574917	0.0882487	5/6/19 20:30	0.0241251	0.7464306	4.88133E+13	2.6894587	6.70217E+12	-0.0174708	-0.5405466	2.6894587
102	5764.05	574918	0.0890788	5/6/19 20:35	0.0241251	0.7464306	4.82994E+13	2.714756	6.70217E+12	-0.0175085	-0.541713	2.714756
103	5752.2	574918	0.0888956	5/6/19 20:40	0.0241251	0.7464306	4.82994E+13	2.7091749	6.70217E+12	-0.0038463	-0.1190045	2.7091749
104	5755.49	574918	0.0889465	5/6/19 20:45	0.0241251	0.7464306	4.82994E+13	2.7107244	6.70217E+12	-0.0004318	-0.0133599	2.7107244
105	5762.02	574919	0.0902091	5/6/19 20:50	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	0.0004104	0.0126978	2.7492027
106	5760.7	574919	0.0901884	5/6/19 20:55	0.0241251	0.7464306	4.76774E+13	2.7485729	6.70217E+12	-0.0009508	-0.0294178	2.7485729
107	5762.49		0.0902164	5/6/19 21:02	0.0175071	0.5416697	4.76774E+13	2.749427		0.0007073	0.0218839	2.749427
108	5774.99	574920	0.1001885	5/6/19 21:19	0.0175071	0.5242793	4.74463E+13	2.9553058	6.70217E+12	-0.0013119	-0.039287	2.9553058
109	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
110	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
111	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
112	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
113	5843.89	574923	0.1041911	5/6/19 21:52	0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
114	5889.14	574923	0.1049979	5/6/19 21:57	0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
115	5938.96	574925	0.1060149	5/6/19 22:02	0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
116	5924.06	574925	0.105749	5/6/19 22:07	0.0137884	0.4129166	4.61118E+13	3.1193265	6.70217E+12	-0.0183554	-0.549683	3.1193265
117	5904.4	574925	0.105398	5/6/19 22:15	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
118	5904.4	574925	0.105398	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
119	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
120	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
121	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
122	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
123	5900.68	574927	0.1057464	5/6/19 22:23	0.0137884	0.4129166	4.59309E+13	3.119251	6.70217E+12	0.0035913	0.1075475	3.119251
124	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
125	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
126	5898.4	574930	0.1031447	5/6/19 22:35	0.0137884	0.4129166	4.70713E+13	3.0425064	6.70217E+12	-0.0289922	-0.8682197	3.0425064
127	5893.05	574930	0.1030511	5/6/19 22:37	0.0137884	0.4129166	4.70713E+13	3.0397468	6.70217E+12	-0.0289922	-0.8682197	3.0397468
128	5897.36	574930	0.1031265	5/6/19 22:42	0.0137884	0.4129166	4.70713E+13	3.04197	6.70217E+12	-0.0236925	-0.7095114	3.04197
129	5899.22	574931	0.1032757	5/6/19 22:47	0.0137884	0.4129166	4.70181E+13	3.046371	6.70217E+12	-0.0155618	-0.466024	3.046371
130	5901.5	574931	0.1033156	5/6/19 22:52	0.0137884	0.4129166	4.70181E+13	3.0475484	6.70217E+12	-0.0215767	-0.6461502	3.0475484
131	5895.01	574932	0.1028817	5/6/19 22:57	0.0137884	0.4129166	4.71645E+13	3.0347496	6.70217E+12	-0.0188905	-0.5657075	3.0347496
132	5882.85	574943	0.1003326	5/7/19 0:02	0.0098383	0.2946243	4.8263E+13	2.9595589	6.70217E+12	-0.002652	-0.0794186	2.9595589
133	5891.99	574943	0.1004885	5/7/19 0:07	0.0098383	0.2946243	4.8263E+13	2.9641571	6.70217E+12	0.0003922	0.0117451	2.9641571
134	5896.7	574944	0.1020246	5/7/19 0:12	0.0098383	0.2946243	4.75743E+13	3.0094662	6.70217E+12	0.0109642	0.3283412	3.0094662
135	5903.84	574944	0.1021481	5/7/19 0:17	0.0098383	0.2946243	4.75743E+13	3.0131102	6.70217E+12	0.0001877	0.005621	3.0131102
136	5911.06	574944	0.102273	5/7/19 0:22	0.0098383	0.2946243	4.75743E+13	3.0167951	6.70217E+12	-0.0190565	-0.5706787	3.0167951
137	5885.39	574945	0.1028414	5/7/19 0:27	0.0098383	0.2946243	4.71059E+13	3.0335618	6.70217E+12	-0.005721	-0.1713249	3.0335618
138	5895.99	574945	0.1030267	5/7/19 0:32	0.0098383	0.2946243	4.71059E+13	3.0390254	6.70217E+12	0.005387	0.1613227	3.0390254
139	5897.07	574945	0.1030455	5/7/19 0:37	0.0098383	0.2946243	4.71059E+13	3.0395821	6.70217E+12	0.0090961	0.2723979	3.0395821
140	5898.51	574945	0.1030707	5/7/19 0:42	0.0098383	0.2946243	4.71059E+13	3.0403243	6.70217E+12	0.0000416	0.0012458	3.0403243
141	5901.99	574945	0.1031315	5/7/19 0:47	0.0098383	0.2946243	4.71059E+13	3.0421181	6.70217E+12	0.0002217	0.0066392	3.0421181
142	5889.59	574946	0.1043197	5/7/19 0:52	0.0098383	0.2946243	4.64716E+13	3.0771656	6.70217E+12	-0.0026672	-0.0798737	3.0771656
143	5889.01	574947	0.1040736	5/7/19 0:57	0.0098383	0.2946243	4.65768E+13	3.0699085	6.70217E+12	-0.0033037	-0.0099034	3.0699085
144	5877.69	574947	0.1038736	5/7/19 1:02	0.0105202	0.3150449	4.65768E+13	3.0640074	6.70217E+12	-0.0030311	-0.0090169	3.0640074
145	5889.43	574948	0.1042298	5/7/19 1:07	0.0105202	0.3150449	4.65104E+13	3.0745154	6.70217E+12	-0.0001362	-0.0040787	3.0745154
146	5887.99	574948	0.1042043	5/7/19 1:12	0.0105202	0.3150449	4.65104E+13	3.0737637	6.70217E+12	0.0091898	0.2752039	3.0737637
147	5867.4	574948	0.1038399	5/7/19 1:17	0.0105202	0.3150449	4.65104E+13	3.0630149	6.70217E+12	0.0091883	0.275159	3.0630149
148	5883.85	574950	0.1044213	5/7/19 1:22	0.0105202	0.3150449	4.63811E+13	3.0801634	6.70217E+12	0.0098517	0.2950256	3.0801634
149	5871.24	574950	0.1041975	5/7/19 1:27	0.0105202	0.3150449	4.63811E+13	3.0735621	6.70217E+12	0.0110652	0.3313659	3.0735621
150	5870.35	574950	0.1041817	5/7/19 1:32	0.0105202	0.3150449	4.63811E+13	3.0730962	6.70217E+12	0.0117356	0.3514424	3.0730962
151	5880.51	574950	0.104362	5/7/19 1:37	0.0105202	0.3150449	4.63811E+13	3.0784149	6.70217E+12	0.0114298	0.3422848	3.0784149
152	5887.56	574951	0.1056193	5/7/19 1:42	0.0105202	0.3150449	4.58839E+13	3.1155019	6.70217E+12	0.0158031	0.4732502	3.1155019
153	5888.94	574951	0.1056441	5/7/19 1:47	0.0105202	0.3150449	4.58839E+13	3.1162321	6.70217E+12	0.0139082	0.4165042	3.1162321
154	5890.07	574951	0.1056643	5/7/19 1:52	0.0105202	0.3150449	4.58839E+13	3.1168301	6.70217E+12	0.0141407	0.4234668	3.1168301
155	5887.93	574952	0.1061226	5/7/19 1:57	0.0105202	0.3150449	4.56692E+13	3.1303483	6.70217E+12	0.0129154	0.3867732	3.1303483
156	5879.77	574953	0.1056897	5/7/19 2:02	0.011378	0.3407332	4.57927E+13	3.117579	6.70217E+12	0.0142018	0.4252966	3.117579
157	5880.52	574954	0.1043159	5/7/19 2:07	0.011378	0.3407332	4.64017E+13	3.0770561	6.70217E+12	0.0139436	0.4175643	3.0770561
158	5875.01	574954	0.1042182	5/7/19 2:12	0.011378	0.3407332	4.64017E+13	3.074173	6.70217E+12	0.0105143	0.3148682	3.074173
159	5873.6	574954	0.1041932	5/7/19 2:17	0.011378	0.3407332	4.64017E+13	3.0734352	6.70217E+12	0.0094361	0.2825797	3.0734352
160	5871.85	574955	0.1044686	5/7/19 2:22	0.011378	0.3407332	4.62656E+13	3.0815582	6.70217E+12	0.0088951	0.2663786	3.0815582
161	5871.01	574956	0.103617	5/7/19 2:27	0.011378	0.3407332	4.66391E+13	3.0564397	6.70217E+12	0.0093072	0.278719	3.0564397
162	5859.85	574956	0.1034201	5/7/19 2:32	0.011378	0.3407332	4.66391E+13	3.0506298	6.70217E+12	0.0120542	0.3609831	3.0506298
163	5865.94	574956	0.1035275	5/7/								

	A	B	C	D	E	F	G	H	I	J	K	L
191	5906.81	574966	0.1085559	5/7/19 4:57	0.0132424	0.3965657	4.47887E+13	3.2021242	6.70217E+12	0.014704	0.4403358	3.2021242
192	5914.74	574966	0.1087016	5/7/19 5:02	0.0163996	0.4911134	4.47887E+13	3.2064231	6.70217E+12	0.0082133	0.245961	3.2064231
193	5917.1	574967	0.109481	5/7/19 5:07	0.0163996	0.4911134	4.44875E+13	3.2294129	6.70217E+12	0.0137796	0.4126531	3.2294129
194	5912.39	574967	0.1093939	5/7/19 5:12	0.0163996	0.4911134	4.44875E+13	3.2268423	6.70217E+12	0.0156701	0.4692673	3.2268423
195	5894.35	574968	0.1094478	5/7/19 5:17	0.0163996	0.4911134	4.433E+13	3.2284315	6.70217E+12	0.0146488	0.4386827	3.2284315
196	5898.35	574968	0.109522	5/7/19 5:22	0.0163996	0.4911134	4.433E+13	3.2306223	6.70217E+12	0.0145908	0.4369458	3.2306223
197	5902.16	574969	0.1079698	5/7/19 5:27	0.0163996	0.4911134	4.49963E+13	3.1848344	6.70217E+12	0.0155564	0.4658623	3.1848344
198	5900.85	574969	0.1079458	5/7/19 5:32	0.0163996	0.4911134	4.49963E+13	3.1841275	6.70217E+12	0.0134736	0.4034894	3.1841275
199	5900.34	574969	0.1079365	5/7/19 5:37	0.0163996	0.4911134	4.49963E+13	3.1838523	6.70217E+12	0.0130804	0.3917144	3.1838523
200	5898.32	574969	0.1078995	5/7/19 5:42	0.0163996	0.4911134	4.49963E+13	3.1827623	6.70217E+12	0.0152049	0.4553361	3.1827623
201	5896.02	574970	0.1092694	5/7/19 5:47	0.0163996	0.4911134	4.44149E+13	3.2231712	6.70217E+12	0.0153738	0.4603941	3.2231712
202	5901.06	574971	0.1070272	5/7/19 5:52	0.0163996	0.4911134	4.53842E+13	3.1570311	6.70217E+12	0.0162384	0.486286	3.1570311
203	5889.23	574971	0.1068126	5/7/19 5:57	0.0163996	0.4911134	4.53842E+13	3.1507021	6.70217E+12	0.0142726	0.4274168	3.1507021
204	5888.81	574971	0.106805	5/7/19 6:02	0.0219988	0.6587907	4.53842E+13	3.1504774	6.70217E+12	0.0140196	0.4198403	3.1504774
205	5888.88	574971	0.1068063	5/7/19 6:07	0.0219988	0.6587907	4.53842E+13	3.1505149	6.70217E+12	0.0128572	0.3850303	3.1505149
206	5894.99	574971	0.1069171	5/7/19 6:12	0.0219988	0.6587907	4.53842E+13	3.1537837	6.70217E+12	0.0139901	0.4189569	3.1537837
207	5888.93	574973	0.1088323	5/7/19 6:17	0.0219988	0.6587907	4.47469E+13	3.1954116	6.70217E+12	0.0169327	0.5070779	3.1954116
208	5883.23	574973	0.1082235	5/7/19 6:22	0.0219988	0.6587907	4.47469E+13	3.1923187	6.70217E+12	0.0161834	0.4846389	3.1923187
209	5874.07	574973	0.108055	5/7/19 6:27	0.0219988	0.6587907	4.47469E+13	3.1873483	6.70217E+12	0.0160255	0.4799103	3.1873483
210	5873.01	574975	0.1081041	5/7/19 6:32	0.0219988	0.6587907	4.47185E+13	3.1887959	6.70217E+12	0.0161849	0.4846838	3.1887959
211	5877.1	574977	0.1051264	5/7/19 6:37	0.0219988	0.6587907	4.60172E+13	3.1009613	6.70217E+12	0.0160886	0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1041746	6.70217E+12	0.01829	0.5477245	3.1041746
213	5883.91	574979	0.1039877	5/7/19 6:47	0.0219988	0.6587907	4.6575E+13	3.0673739	6.70217E+12	0.0197193	0.5905273	3.0673739
214	5887.01	574980	0.1024096	5/7/19 6:52	0.0219988	0.6587907	4.73176E+13	3.0208243	6.70217E+12	0.0172624	0.5169513	3.0208243
215	5890.93	574981	0.1023627	5/7/19 6:57	0.0219988	0.6587907	4.73708E+13	3.0194404	6.70217E+12	0.0219934	0.658629	3.0194404
216	5891.99	574981	0.1023811	5/7/19 7:02	0.0252156	0.7551232	4.73708E+13	3.0199837	6.70217E+12	0.0190854	0.5715441	3.0199837
217	5901.6	574981	0.1025481	5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094	6.70217E+12	0.0202021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	5/7/19 7:12	0.0252156	0.7551232	4.72845E+13	3.0296666	6.70217E+12	0.019538	0.585098	3.0296666
219	5902.76	574983	0.1021815	5/7/19 7:17	0.0252156	0.7551232	4.75501E+13	3.0140942	6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/19 7:22	0.0252156	0.7551232	4.73864E+13	3.0240881	6.70217E+12	0.0333844	0.9997515	3.0240881
221	5902.21	574986	0.1024856	5/7/19 7:27	0.0252156	0.7551232	4.74046E+13	3.0230648	6.70217E+12	0.0226755	0.6790556	3.0230648
222	5897.09	574987	0.1012514	5/7/19 7:32	0.0252156	0.7551232	4.79408E+13	3.0286604	6.70217E+12	0.0228656	0.7745885	3.0286604
223	5891.39	574988	0.1001624	5/7/19 7:37	0.0252156	0.7551232	4.84152E+13	3.02945379	6.70217E+12	0.0217027	0.6499235	3.02945379
224	5896.98	574988	0.1002575	5/7/19 7:42	0.0252156	0.7551232	4.84152E+13	3.02953413	6.70217E+12	0.0181457	0.5434032	3.02953413
225	5915.01	574989	0.0992602	5/7/19 7:47	0.0252156	0.7551232	4.90511E+13	3.0297253	6.70217E+12	0.0175618	0.5259174	3.0297253
226	5909.89	574989	0.0991743	5/7/19 7:52	0.0252156	0.7551232	4.90511E+13	3.02953909	6.70217E+12	0.0176235	0.5277651	3.02953909
227	5907.41	574990	0.0997661	5/7/19 7:57	0.0252156	0.7551232	4.87396E+13	3.0284886	6.70217E+12	0.0207605	0.62171227	3.0284886
228	5909.98	574990	0.0998095	5/7/19 8:02	0.0276548	0.8281691	4.87396E+13	3.02941289	6.70217E+12	0.03509108	10.5086088	3.02941289
229	5885.9	574991	0.1001084	5/7/19 8:07	0.0276548	0.8281691	4.83962E+13	3.029529431	6.70217E+12	0.03618156	31.7978378	3.029529431
230	5894.01	574991	0.1002463	5/7/19 8:12	0.0276548	0.8281691	4.83962E+13	3.029570118	6.70217E+12	0.03477068	10.4126596	3.029570118
231	5901.61	574991	0.1003756	5/7/19 8:17	0.0276548	0.8281691	4.83962E+13	3.029608247	6.70217E+12	0.0233212	6.6877255	3.029608247
232	5901.01	574993	0.0990295	5/7/19 8:22	0.0276548	0.8281691	4.9049E+13	3.02921197	6.70217E+12	0.01839307	5.5081114	3.02921197
233	5896.99	574993	0.0989662	5/7/19 8:27	0.0276548	0.8281691	4.9049E+13	3.02919298	6.70217E+12	0.0209737	6.2817236	3.02919298
234	5903.12	574994	0.0985656	5/7/19 8:32	0.0276548	0.8281691	4.92975E+13	3.029074343	6.70217E+12	0.0304959	0.9132506	3.029074343
235	5904.99	574994	0.0985968	5/7/19 8:37	0.0276548	0.8281691	4.92975E+13	3.029083554	6.70217E+12	0.0229099	0.6860751	3.029083554
236	5928.02	574994	0.0989813	5/7/19 8:42	0.0276548	0.8281691	4.92975E+13	3.029196982	6.70217E+12	0.032368	0.696799	3.029196982
237	5918.93	574994	0.0988295	5/7/19 8:47	0.0276548	0.8281691	4.92975E+13	3.029152212	6.70217E+12	0.0200853	0.6014878	3.029152212
238	5920.48	574994	0.0988554	5/7/19 8:52	0.0276548	0.8281691	4.92975E+13	3.029159846	6.70217E+12	0.02447	0.7327949	3.029159846
239	5927.27	574996	0.1000578	5/7/19 8:57	0.0276548	0.8281691	4.8761E+13	3.029154506	6.70217E+12	0.0185494	0.5554927	3.029154506
240	5970.03	574997	0.0973284	5/7/19 9:02	0.0268411	0.8038015	5.049E+13	3.028709404	6.70217E+12	0.0182697	0.5471166	3.028709404
241	5896.92	574997	0.0961365	5/7/19 9:07	0.0268411	0.8038015	5.049E+13	3.02875824	6.70217E+12	0.0189375	0.567115	3.02875824
242	5876.01	574998	0.0954385	5/7/19 9:12	0.0268411	0.8038015	5.06789E+13	3.02815949	6.70217E+12	0.0203296	0.6088038	3.02815949
243	5818.78	574999	0.0935121	5/7/19 9:17	0.0268411	0.8038015	5.12192E+13	3.02758369	6.70217E+12	0.0194987	0.5839212	3.02758369
244	5836.61	574999	0.0937986	5/7/19 9:22	0.0268411	0.8038015	5.12192E+13	3.027668213	6.70217E+12	0.0190273	0.5698044	3.027668213
245	5852.94	574999	0.094061	5/7/19 9:27	0.0268411	0.8038015	5.12192E+13	3.027745624	6.70217E+12	0.0201623	0.6037937	3.027745624
246	5843.39	575000	0.0949282	5/7/19 9:32	0.0268411	0.8038015	5.06685E+13	3.028001417	6.70217E+12	0.0195915	0.5867001	3.028001417
247	5840.9	575000	0.0948878	5/7/19 9:37	0.0268411	0.8038015	5.06685E+13	3.027989485	6.70217E+12	0.0208798	0.6252804	3.027989485
248	5844.44	575000	0.0949453	5/7/19 9:42	0.0268411	0.8038015	5.06685E+13	3.028006448	6.70217E+12	0.0199536	0.5975438	3.028006448
249	5831.94	575001	0.0939960	5/7/19 9:47	0.0268411	0.8038015	5.06054E+13	3.027981392	6.70217E+12	0.0196606	0.5887694	3.027981392
250	5840.78	575003	0.0941941	5/7/19 9:52	0.0268411	0.8038015	5.10406E+13	3.027784869	6.70217E+12	0.0187964	0.562889	3.027784869
251	5839.47	575003	0.094173	5/7/19 9:57	0.0268411	0.8038015	5.10406E+13	3.02778637	6.70217E+12	0.0188057	0.563168	3.02778637
252	5836.55	575003	0.0941259	5/7/19 9:58	0.0268411	0.8038015	5.10406E+13	3.027764747	6.70217E+12	0.0188057	0.563168	3.027764747
253	5843.59	575003	0.0942394	5/7/19 10:03	0.0287164	0.8599605	5.10406E+13	3.02798236	6.70217E+12	0.0202762	0.6072046	3.02798236
254	5851.93	575003	0.0943739	5/7/19 10:08	0.0287164	0.8599605	5.10406E+13	3.02783791	6.70217E+12	0.0195808	0.5863797	3.02783791
255	5840.6	575003	0.0941912	5/7/19 10:13	0.0287164	0.8599605	5.10406E+13	3.027784013	6.70217E+12	0.0202654	0.6068812	3.027784013
256	5841.73	575003	0.0942024	5/7/19 10:18	0.0287164	0.8599605	5.10406E+13	3.027789388	6.70217E+12	0.020167	0.6039344	3.027789388
257	5837.26	575004	0.0966021	5/7/19 10:23	0.0287164	0.8599605	4.97383E+13	3.02849				

	A	B	C	D	E	F	G	H	I	J	K	L
286	5907.12	575011	0.1035688	5/7/19 12:13	0.0270574	0.8102789	4.69478E+13	3.0550179	6.70217E+12	0.0195085	0.5842145	3.0550179
287	5908.19	575013	0.1040015	5/7/19 12:18	0.0270574	0.8102789	4.67609E+13	3.0677806	6.70217E+12	0.0177224	0.5307268	3.0677806
288	5895.99	575013	0.1037867	5/7/19 12:23	0.0270574	0.8102789	4.67609E+13	3.0614459	6.70217E+12	0.0163821	0.4905893	3.0614459
289	5898.02	575014	0.1043706	5/7/19 12:27	0.0270574	0.8102789	4.65154E+13	3.0786681	6.70217E+12	0.0162962	0.4880169	3.0786681
290	5895.6	575014	0.1043278	5/7/19 12:32	0.0270574	0.8102789	4.65154E+13	3.0774049	6.70217E+12	0.0164602	0.4929281	3.0774049
291	5887.34	575016	0.1041844	5/7/19 12:37	0.0270574	0.8102789	4.65141E+13	3.0731761	6.70217E+12	0.0200409	0.6001582	3.0731761
292	5889.4	575016	0.1042209	5/7/19 12:42	0.0270574	0.8102789	4.65141E+13	3.0742514	6.70217E+12	0.0215114	0.6441947	3.0742514
293	5893.65	575016	0.1042961	5/7/19 12:47	0.0270574	0.8102789	4.65141E+13	3.0764699	6.70217E+12	0.020945	0.6272329	3.0764699
294	5893.83	575018	0.1033386	5/7/19 12:52	0.0270574	0.8102789	4.69465E+13	3.0482275	6.70217E+12	0.0215906	0.6465665	3.0482275
295	5890.09	575018	0.103273	5/7/19 12:57	0.0270574	0.8102789	4.69465E+13	3.0462932	6.70217E+12	0.0199465	0.5973312	3.0462932
296	5887.86	575018	0.1032339	5/7/19 13:02	0.0260477	0.7800418	4.69465E+13	3.0451399	6.70217E+12	0.0182097	0.5453198	3.0451399
297	5877.45	575018	0.1030514	5/7/19 13:07	0.0260477	0.7800418	4.69465E+13	3.0397559	6.70217E+12	0.0171154	0.5125492	3.0397559
298	5880.76	575018	0.1031095	5/7/19 13:12	0.0260477	0.7800418	4.69465E+13	3.0414678	6.70217E+12	0.0158291	0.4740288	3.0414678
299	5885.01	575018	0.103184	5/7/19 13:17	0.0260477	0.7800418	4.69465E+13	3.0436659	6.70217E+12	0.0156969	0.4700698	3.0436659
300	5886.65	575019	0.105185	5/7/19 13:22	0.0260477	0.7800418	4.60663E+13	3.10269	6.70217E+12	0.0194576	0.5826903	3.10269
301	5886.81	575019	0.1051878	5/7/19 13:27	0.0260477	0.7800418	4.60663E+13	3.1027744	6.70217E+12	0.0237637	0.7116436	3.1027744
302	5886.02	575019	0.1051737	5/7/19 13:32	0.0260477	0.7800418	4.60663E+13	3.102358	6.70217E+12	0.034183	1.0236669	3.102358
303	5878.86	575019	0.1050458	5/7/19 13:37	0.0260477	0.7800418	4.60663E+13	3.0985841	6.70217E+12	0.4823059	14.443454	14.443454
304	5879.94	575019	0.1050651	5/7/19 13:42	0.0260477	0.7800418	4.60663E+13	3.0991534	6.70217E+12	0.1343145	4.0222716	4.0222716
305	5872.78	575020	0.1055767	5/7/19 13:47	0.0260477	0.7800418	4.57872E+13	3.1124442	6.70217E+12	0.0287544	0.8610984	3.1124442
306	5868.57	575020	0.105501	5/7/19 13:52	0.0260477	0.7800418	4.57872E+13	3.1120117	6.70217E+12	0.0442637	1.3255503	3.1120117
307	5877.6	575020	0.1056633	5/7/19 13:57	0.0260477	0.7800418	4.57872E+13	3.1168002	6.70217E+12	0.0156508	0.4686893	3.1168002
308	5880.3	575021	0.1070192	5/7/19 14:02	0.025584	0.7661555	4.52279E+13	3.156795	6.70217E+12	0.0212368	0.6359714	3.156795
309	5873.1	575021	0.1068882	5/7/19 14:07	0.025584	0.7661555	4.52279E+13	3.1529297	6.70217E+12	0.0135226	0.4049568	3.1529297
310	5856.76	575021	0.1065908	5/7/19 14:12	0.025584	0.7661555	4.52279E+13	3.1441577	6.70217E+12	0.0161145	0.4825756	3.1441577
311	5835.32	575021	0.1062006	5/7/19 14:17	0.025584	0.7661555	4.52279E+13	3.1326478	6.70217E+12	0.021294	0.6376843	3.1326478
312	5823.7	575021	0.1059891	5/7/19 14:22	0.025584	0.7661555	4.52279E+13	3.1264097	6.70217E+12	0.0232619	0.6966164	3.1264097
313	5823.9	575021	0.1059927	5/7/19 14:27	0.025584	0.7661555	4.52279E+13	3.1265171	6.70217E+12	0.0186602	0.5588108	3.1265171
314	5844.51	575021	0.1063678	5/7/19 14:32	0.025584	0.7661555	4.52279E+13	3.1375814	6.70217E+12	0.0221179	0.6623574	3.1375814
315	5852.73	575022	0.1090264	5/7/19 14:37	0.025584	0.7661555	4.41871E+13	3.2160024	6.70217E+12	0.0160534	0.4807458	3.2160024
316	5842.59	575022	0.1088375	5/7/19 14:42	0.025584	0.7661555	4.41871E+13	3.2104306	6.70217E+12	0.0139152	0.4167139	3.2104306
317	5844.51	575023	0.1093454	5/7/19 14:47	0.025584	0.7661555	4.39963E+13	3.225412	6.70217E+12	0.0096897	0.2901742	3.225412
318	5842.77	575023	0.1093128	5/7/19 14:52	0.025584	0.7661555	4.39963E+13	3.2244517	6.70217E+12	0.0082441	0.2468833	3.2244517
319	5843.27	575023	0.1093222	5/7/19 14:57	0.025584	0.7661555	4.39963E+13	3.2247277	6.70217E+12	0.0080116	0.2399207	3.2247277
320	5849.85	575023	0.1094453	5/7/19 15:02	0.0200751	0.6011823	4.39963E+13	3.228359	6.70217E+12	0.004172	0.1249375	3.228359
321	5844.11	575023	0.1093397	5/7/19 15:07	0.0200751	0.6011823	4.39963E+13	3.2251913	6.70217E+12	0.0063173	0.1891821	3.2251913
322	5838.69	575023	0.1092365	5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12	0.0074128	0.2219887	3.2222001
323	5843.57	575023	0.1093278	5/7/19 15:17	0.0200751	0.6011823	4.39963E+13	3.2248932	6.70217E+12	0.0068169	0.2041434	3.2248932
324	5844.59	575023	0.1093469	5/7/19 15:22	0.0200751	0.6011823	4.39963E+13	3.2254562	6.70217E+12	0.0173942	0.5208983	3.2254562
325	5849.99	575023	0.1094479	5/7/19 15:27	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0160868	0.481746	3.2284363
326	5849.99	575023	0.1094479	5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
327	5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
328	5861.7	575023	0.109667	5/7/19 15:42	0.0200751	0.6011823	4.39963E+13	3.2348987	6.70217E+12	0.0164337	0.4921345	3.2348987
329	5871.48	575024	0.1144475	5/7/19 15:47	0.0200751	0.6011823	4.22289E+13	3.3759101	6.70217E+12	0.0172669	0.5170861	3.3759101
330	5859.1	575024	0.1142061	5/7/19 15:52	0.0200751	0.6011823	4.22289E+13	3.368792	6.70217E+12	0.0085437	0.2558553	3.368792
331	5854.1	575025	0.1144044	5/7/19 15:57	0.0200751	0.6011823	4.21197E+13	3.3746406	6.70217E+12	0.0200752	0.6011853	3.3746406
332	5843.22	575026	0.1144995	5/7/19 16:02	0.0216225	0.6475218	4.20066E+13	3.3774456	6.70217E+12	0.0220984	0.6617734	3.3774456
333	5853.43	575026	0.1146996	5/7/19 16:07	0.0216225	0.6475218	4.20066E+13	3.3833471	6.70217E+12	0.0156725	0.4693931	3.3833471
334	5856.16	575026	0.1147531	5/7/19 16:12	0.0216225	0.6475218	4.20066E+13	3.384925	6.70217E+12	0.0214597	0.6426465	3.384925
335	5854.02	575026	0.1147111	5/7/19 16:17	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12	0.0239835	0.7182259	3.3836881
336	5850.81	575026	0.1146482	5/7/19 16:22	0.0216225	0.6475218	4.20066E+13	3.3818327	6.70217E+12	0.0167074	0.5003309	3.3818327
337	5854.62	575027	0.1163454	5/7/19 16:27	0.0216225	0.6475218	4.14207E+13	3.4318944	6.70217E+12	0.0156102	0.4674735	3.4318944
338	5855.8	575028	0.1157465	5/7/19 16:32	0.0216225	0.6475218	4.164335E+13	3.4142287	6.70217E+12	0.0163249	0.4888763	3.4142287
339	5856.74	575029	0.1142802	5/7/19 16:37	0.0216225	0.6475218	4.21846E+13	3.3709755	6.70217E+12	0.0175314	0.525007	3.3709755
340	5868.02	575029	0.1145003	5/7/19 16:42	0.0216225	0.6475218	4.21846E+13	3.3774679	6.70217E+12	0.0151098	0.4524881	3.3774679
341	5872.51	575029	0.1145879	5/7/19 16:47	0.0216225	0.6475218	4.21846E+13	3.3800522	6.70217E+12	0.0146534	0.4388205	3.3800522
342	5871.99	575029	0.1145777	5/7/19 16:52	0.0216225	0.6475218	4.21846E+13	3.3797529	6.70217E+12	0.0175759	0.5263396	3.3797529
343	5880.77	575029	0.1147491	5/7/19 16:57	0.0216225	0.6475218	4.21846E+13	3.3848064	6.70217E+12	0.0063504	0.1901733	3.3848064
344	5886.53	575029	0.1148614	5/7/19 17:02	0.0204922	0.6136731	4.21846E+13	3.3881217	6.70217E+12	0.0061338	0.1836869	3.3881217
345	5889.98	575029	0.1149288	5/7/19 17:07	0.0204922	0.6136731	4.21846E+13	3.3901075	6.70217E+12	0.0028472	0.0852641	3.3901075
346	5885.6	575031	0.1147437	5/7/19 17:12	0.0204922	0.6136731	4.22212E+13	3.3846492	6.70217E+12	0.0111196	0.332995	3.3846492
347	5883.88	575032	0.1144564	5/7/19 17:17	0.0204922	0.6136731	4.23148E+13	3.3761744	6.70217E+12	0.0197231	0.5906411	3.3761744
348	5871.02	575033	0.114058	5/7/19 17:22	0.0204922	0.6136731	4.23698E+13	3.364421	6.70217E+12	0.013771	0.4123955	3.364421
349	5872.05	575033	0.114078	5/7/19 17:27	0.0204922	0.6136731	4.23698E+13	3.3650113	6.70217E+12	0.0099314	0.2974123	3.3650113
350	5878.77	575034	0.1147072	5/7/19 17:32	0.0204922	0.6136731	4.21856E+13	3.3835727	6.70217E+12	0.0135307	0.4051994	3.3835727
351	5877.4	575034	0.1146805	5/7/19 17:37	0.0204922	0.6136731	4.21856E+13	3.3827841	6.70217E+12	0.0143791	0.4306061	3.3827841
352	5880.39	575034	0.1147388	5/7/19 17:42	0.0204922	0.6136731	4.21856E+13	3.3845051	6.70217E+12	0.0171643	0.5140136	3.3845051

	A	B	C	D	E	F	G	H	I	J	K	L
381	5785.64	575050	0.1067275	5/7/19 20:08	0.0214057	0.6410294	4.46214E+13	3.1481898	6.70217E+12	0.0200782	0.6012752	3.1481898
382	5794.65	575051	0.1065264	5/7/19 20:13	0.0214057	0.6410294	4.47753E+13	3.1422582	6.70217E+12	0.0189119	0.5663484	3.1422582
383	5794.99	575052	0.105856	5/7/19 20:18	0.0214057	0.6410294	4.50615E+13	3.1224836	6.70217E+12	0.0168789	0.5054668	3.1224836
384	5777.32	575052	0.1055332	5/7/19 20:23	0.0214057	0.6410294	4.50615E+13	3.1129625	6.70217E+12	0.0188787	0.5653534	3.1129625
385	5779.44	575052	0.1055719	5/7/19 20:28	0.0214057	0.6410294	4.50615E+13	3.1141049	6.70217E+12	0.0185028	0.5540972	3.1141049
386	5784.49	575053	0.1069047	5/7/19 20:33	0.0214057	0.6410294	4.45386E+13	3.1534189	6.70217E+12	0.0168679	0.5051374	3.1534189
387	5792.26	575054	0.1071284	5/7/19 20:38	0.0214057	0.6410294	4.45053E+13	3.1600161	6.70217E+12	0.0100913	0.3022008	3.1600161
388	5794.99	575055	0.1078127	5/7/19 20:43	0.0214057	0.6410294	4.42437E+13	3.1802017	6.70217E+12	0.0159387	0.4773109	3.1802017
389	5798.99	575056	0.1065136	5/7/19 20:48	0.0214057	0.6410294	4.48142E+13	3.1418807	6.70217E+12	0.0155694	0.4662516	3.1418807
390	5799.99	575056	0.1065319	5/7/19 20:53	0.0214057	0.6410294	4.48142E+13	3.1424225	6.70217E+12	0.0120816	0.3618036	3.1424225
391	5792.47	575056	0.1063938	5/7/19 20:58	0.0214057	0.6410294	4.48142E+13	3.1383482	6.70217E+12	0.0121052	0.3625104	3.1383482
392	5783.99	575057	0.1071229	5/7/19 21:03	0.0187353	0.5610598	4.4444E+13	3.1598544	6.70217E+12	0.0062082	0.1859149	3.1598544
393	5798.01	575060	0.1064196	5/7/19 21:08	0.0187353	0.5610598	4.48462E+13	3.1391083	6.70217E+12	0.0101617	0.304309	3.1391083
394	5804.99	575060	0.1065477	5/7/19 21:13	0.0187353	0.5610598	4.48462E+13	3.1428873	6.70217E+12	0.0147359	0.4412911	3.1428873
395	5804.47	575060	0.1065382	5/7/19 21:18	0.0187353	0.5610598	4.48462E+13	3.1426058	6.70217E+12	0.0161425	0.4834141	3.1426058
396	5797.19	575061	0.1077196	5/7/19 21:23	0.0187353	0.5610598	4.42987E+13	3.1774565	6.70217E+12	0.0166747	0.4993517	3.1774565
397	5796.01	575062	0.1073179	5/7/19 21:28	0.0187353	0.5610598	4.44555E+13	3.1656063	6.70217E+12	0.0162576	0.4868609	3.1656063
398	5796.91	575062	0.1073346	5/7/19 21:33	0.0187353	0.5610598	4.44555E+13	3.1660978	6.70217E+12	0.0154972	0.4640895	3.1660978
399	5804.49	575063	0.1082426	5/7/19 21:38	0.0187353	0.5610598	4.41402E+13	3.1928815	6.70217E+12	0.0140195	0.4198373	3.1928815
400	5807.51	575063	0.1082989	5/7/19 21:43	0.0187353	0.5610598	4.41402E+13	3.1945427	6.70217E+12	0.0138085	0.4135185	3.1945427
401	5806.56	575064	0.107581	5/7/19 21:48	0.0187353	0.5610598	4.44275E+13	3.1733683	6.70217E+12	0.0123646	0.3702786	3.1733683
402	5797.78	575064	0.1074184	5/7/19 21:53	0.0187353	0.5610598	4.44275E+13	3.1685699	6.70217E+12	0.0135325	0.4052533	3.1685699
403	5793.65	575064	0.1073419	5/7/19 21:58	0.0187353	0.5610598	4.44275E+13	3.1663128	6.70217E+12	0.0143717	0.4303845	3.1663128
404	5778.02	575065	0.1070536	5/7/19 22:03	0.0092857	0.2780758	4.44269E+13	3.1578114	6.70217E+12	0.0159167	0.4766521	3.1578114
405	5773.43	575066	0.1052104	5/7/19 22:08	0.0092857	0.2780758	4.51693E+13	3.1034402	6.70217E+12	0.0153253	0.4589417	3.1034402
406	5779.39	575067	0.1054664	5/7/19 22:13	0.0092857	0.2780758	4.51062E+13	3.1109906	6.70217E+12	0.0139439	0.4175733	3.1109906
407	5791.59	575067	0.105689	5/7/19 22:18	0.0092857	0.2780758	4.51062E+13	3.1175577	6.70217E+12	0.0131096	0.3925888	3.1175577
408	5790.02	575067	0.1056603	5/7/19 22:23	0.0092857	0.2780758	4.51062E+13	3.1167126	6.70217E+12	0.0122573	0.3670653	3.1167126
409	5782.94	575067	0.1055311	5/7/19 22:28	0.0092857	0.2780758	4.51062E+13	3.1129015	6.70217E+12	0.0136306	0.408191	3.1129015
410	5775.43	575067	0.1053941	5/7/19 22:33	0.0092857	0.2780758	4.51062E+13	3.1088589	6.70217E+12	0.0135185	0.404834	3.1088589
411	5779.99	575068	0.1067775	5/7/19 22:38	0.0092857	0.2780758	4.4557E+13	3.1496656	6.70217E+12	0.0130395	0.3904896	3.1496656
412	5785.55	575068	0.1068802	5/7/19 22:43	0.0092857	0.2780758	4.4557E+13	3.1526954	6.70217E+12	0.0132167	0.3957961	3.1526954
413	5776.9	575070	0.1064823	5/7/19 22:48	0.0092857	0.2780758	4.46566E+13	3.1409571	6.70217E+12	0.0151927	0.4549707	3.1409571
414	5782.35	575070	0.1065827	5/7/19 22:53	0.0092857	0.2780758	4.46566E+13	3.1439203	6.70217E+12	0.0127496	0.381808	3.1439203
415	5778.56	575070	0.1065129	5/7/19 22:58	0.0092857	0.2780758	4.46566E+13	3.1418596	6.70217E+12	0.01094	0.3276165	3.1418596
416	5807.88	575077	0.1057164	5/8/19 0:03	0.010744	0.321747	4.52214E+13	3.1183659	6.70217E+12	0.0116913	0.3501155	3.1183659
417	5804.11	575077	0.1056478	5/8/19 0:08	0.010744	0.321747	4.52214E+13	3.1163417	6.70217E+12	0.0120928	0.3621391	3.1163417
418	5801.23	575078	0.1058179	5/8/19 0:13	0.010744	0.321747	4.51263E+13	3.1213604	6.70217E+12	0.0121536	0.3639598	3.1213604
419	5791.66	575078	0.1056434	5/8/19 0:18	0.010744	0.321747	4.51263E+13	3.1162113	6.70217E+12	0.0124538	0.3729498	3.1162113
420	5795.5	575078	0.1057134	5/8/19 0:23	0.010744	0.321747	4.51263E+13	3.1182774	6.70217E+12	0.0132227	0.3959758	3.1182774
421	5795.98	575079	0.1065412	5/8/19 0:28	0.010744	0.321747	4.47794E+13	3.1426942	6.70217E+12	0.0133711	0.4004199	3.1426942
422	5799.99	575081	0.102499	5/8/19 0:33	0.010744	0.321747	4.65775E+13	3.0234621	6.70217E+12	0.0173409	0.5193022	3.0234621
423	5804.41	575082	0.1023697	5/8/19 0:38	0.010744	0.321747	4.66719E+13	3.0196463	6.70217E+12	0.0172819	0.5175353	3.0196463
424	5804.82	575084	0.1015622	5/8/19 0:43	0.010744	0.321747	4.70463E+13	2.9958274	6.70217E+12	0.0175389	0.5252316	2.9958274
425	5802.49	575086	0.0989662	5/8/19 0:48	0.010744	0.321747	4.82609E+13	2.9192535	6.70217E+12	0.0173835	0.5205779	2.9192535
426	5795.31	575086	0.0988438	5/8/19 0:53	0.010744	0.321747	4.82609E+13	2.9156412	6.70217E+12	0.0147548	0.4418571	2.9156412
427	5799.55	575087	0.0990391	5/8/19 0:58	0.010744	0.321747	4.8201E+13	2.9214025	6.70217E+12	0.0135535	0.4058821	2.9214025
428	5810.52	575087	0.0992264	5/8/19 1:03	0.0116366	0.3484774	4.8201E+13	2.9269284	6.70217E+12	0.0126685	0.3793793	2.9269284
429	5818.01	575087	0.0993543	5/8/19 1:08	0.0116366	0.3484774	4.8201E+13	2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	5/8/19 1:13	0.0116366	0.3484774	4.86011E+13	2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431	5817.39	575090	0.0973429	5/8/19 1:18	0.0116366	0.3484774	4.91901E+13	2.8713676	6.70217E+12	0.0126278	0.3781605	2.8713676
432	5820.91	575090	0.0974051	5/8/19 1:23	0.0116366	0.3484774	4.91901E+13	2.8732038	6.70217E+12	0.0125071	0.374546	2.8732038
433	5831.99	575090	0.0975905	5/8/19 1:28	0.0116366	0.3484774	4.91901E+13	2.8786729	6.70217E+12	0.0125147	0.3747735	2.8786729
434	5837.72	575090	0.0976864	5/8/19 1:33	0.0116366	0.3484774	4.91901E+13	2.8815012	6.70217E+12	0.0030723	0.0920051	2.8815012
435	5825.57	575090	0.0974831	5/8/19 1:38	0.0116366	0.3484774	4.91901E+13	2.875504	6.70217E+12	0.0007008	0.0209866	2.875504
436	5834.9	575090	0.0976392	5/8/19 1:43	0.0116366	0.3484774	4.91901E+13	2.8801093	6.70217E+12	0.002842	0.0851084	2.8801093
437	5839.94	575090	0.0977235	5/8/19 1:49	0.0116366	0.3484774	4.91901E+13	2.882597	6.70217E+12	0.0029206	0.0874622	2.882597
438	5834.68	575090	0.0976355	5/8/19 1:54	0.0116366	0.3484774	4.91901E+13	2.8800007	6.70217E+12	0.0037273	0.1116022	2.8800007
439	5827.66	575090	0.0975181	5/8/19 1:59	0.0116366	0.3484774	4.91901E+13	2.8765356	6.70217E+12	0.0045235	0.1354637	2.8765356
440	5833.57	575090	0.097617	5/8/19 2:04	0.0116665	0.3583568	4.91901E+13	2.8794528	6.70217E+12	0.005794	0.173511	2.8794528
441	5837.02	575090	0.0976747	5/8/19 2:09	0.0116665	0.3583568	4.91901E+13	2.8811557	6.70217E+12	0.0120927	0.3621361	2.8811557
442	5834.82	575091	0.1021121	5/8/19 2:14	0.0116665	0.3583568	4.70347E+13	3.0120484	6.70217E+12	0.0138694	0.4153423	3.0120484
443	5832.01	575091	0.1020629	5/8/19 2:19	0.0116665	0.3583568	4.70347E+13	3.0105978	6.70217E+12	0.0243003	0.727713	3.0105978
444	5827.28	575091	0.1019802	5/8/19 2:24	0.0116665	0.3583568	4.70347E+13	3.0081561	6.70217E+12	0.0146496	0.4387067	3.0081561
445	5814.3	575091	0.101753	5/8/19 2:29	0.0116665	0.3583568	4.70347E+13	3.0014556	6.70217E+12	0.013417	0.4017944	3.0014556
446	5822.06	575092	0.1015212	5/8/19 2:34	0.0116665	0.3583568	4.72051E+13	2.9946169	6.70217E+12	0.013794	0.4130843	2.9946169
447	5827.69	575092	0.1016193	5/8/19 2:39	0.0116665	0.3583568	4.72051E+13	2.9975127	6.70217E+12	0		

	A	B	C	D	E	F	G	H	I	J	K	L
476	5821.06	575109	0.1057288	5/8/19 5:04	0.0172785	0.5174335	4.53187E+13	3.1187323	6.70217E+12	0.0087613	0.2623717	3.1187323
477	5830.24	575109	0.1058956	5/8/19 5:09	0.0172785	0.5174335	4.53187E+13	3.1236507	6.70217E+12	0.0125147	0.3747735	3.1236507
478	5816.12	575110	0.1063653	5/8/19 5:14	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0158514	0.4746966	3.1375074
479	5816.12	575110	0.1063653	5/8/19 5:19	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0145818	0.4366763	3.1375074
480	5811.28	575111	0.1058572	5/8/19 5:24	0.0172785	0.5174335	4.51877E+13	3.1225197	6.70217E+12	0.0159657	0.4781195	3.1225197
481	5814.19	575113	0.1054793	5/8/19 5:29	0.0172785	0.5174335	4.53722E+13	3.1113735	6.70217E+12	0.0189354	0.5670521	3.1113735
482	5822.89	575113	0.1056372	5/8/19 5:34	0.0172785	0.5174335	4.53722E+13	3.1160292	6.70217E+12	0.0168377	0.5042332	3.1160292
483	5825.6	575113	0.1056863	5/8/19 5:39	0.0172785	0.5174335	4.53722E+13	3.1174794	6.70217E+12	0.0142709	0.4273659	3.1174794
484	5825.47	575114	0.1057728	5/8/19 5:44	0.0172785	0.5174335	4.53341E+13	3.1200304	6.70217E+12	0.0162737	0.4873431	3.1200304
485	5830.59	575114	0.1058658	5/8/19 5:49	0.0172785	0.5174335	4.53341E+13	3.1227726	6.70217E+12	0.016296	0.4880109	3.1227726
486	5839.34	575114	0.1060247	5/8/19 5:54	0.0172785	0.5174335	4.53341E+13	3.127459	6.70217E+12	0.0078999	0.2365757	3.127459
487	5838.51	575115	0.1055129	5/8/19 5:59	0.0172785	0.5174335	4.55475E+13	3.1123637	6.70217E+12	0.0157437	0.4714713	3.1123637
488	5829.09	575117	0.1054774	5/8/19 6:04	0.0211899	0.6345669	4.54893E+13	3.1113164	6.70217E+12	0.015334	0.4592022	3.1113164
489	5826.85	575117	0.1054369	5/8/19 6:09	0.0211899	0.6345669	4.54893E+13	3.1101208	6.70217E+12	0.0095667	0.2864908	3.1101208
490	5838.53	575118	0.105587	5/8/19 6:14	0.0211899	0.6345669	4.55157E+13	3.1145494	6.70217E+12	0.0126575	0.3790499	3.1145494
491	5843.74	575119	0.1054459	5/8/19 6:19	0.0211899	0.6345669	4.56173E+13	3.1103869	6.70217E+12	0.0159603	0.4779578	3.1103869
492	5843.03	575119	0.1054331	5/8/19 6:24	0.0211899	0.6345669	4.56173E+13	3.110009	6.70217E+12	0.0169939	0.5089107	3.110009
493	5842.51	575119	0.1054237	5/8/19 6:29	0.0211899	0.6345669	4.56173E+13	3.1097323	6.70217E+12	0.0176305	0.5279747	3.1097323
494	5859.77	575120	0.1055662	5/8/19 6:34	0.0211899	0.6345669	4.56903E+13	3.1139353	6.70217E+12	0.0182108	0.5453528	3.1139353
495	5849.16	575120	0.1053751	5/8/19 6:39	0.0211899	0.6345669	4.56903E+13	3.1082971	6.70217E+12	0.0222873	0.6674303	3.1082971
496	5859.91	575120	0.1055687	5/8/19 6:44	0.0211899	0.6345669	4.56903E+13	3.1140097	6.70217E+12	0.0240313	0.7196573	3.1140097
497	5874.94	575120	0.1058395	5/8/19 6:49	0.0211899	0.6345669	4.56903E+13	3.1219968	6.70217E+12	0.0247785	0.7420335	3.1219968
498	5849.77	575122	0.1058251	5/8/19 6:54	0.0211899	0.6345669	4.55007E+13	3.1215733	6.70217E+12	0.035146	1.0520555	3.1215733
499	5847.52	575123	0.1059851	5/8/19 6:59	0.0211899	0.6345669	4.54146E+13	3.1262913	6.70217E+12	0.0331317	0.992184	3.1262913
500	5858.74	575123	0.1061884	5/8/19 7:04	0.0245969	0.7365952	4.54146E+13	3.1322899	6.70217E+12	0.0225584	0.6755489	3.1322899
501	5868.24	575124	0.1046351	5/8/19 7:09	0.0245969	0.7365952	4.61635E+13	3.0864695	6.70217E+12	0.0227738	0.6819994	3.0864695
502	5860.28	575124	0.1044931	5/8/19 7:14	0.0245969	0.7365952	4.61635E+13	3.0822829	6.70217E+12	0.0189208	0.5666149	3.0822829
503	5864.03	575124	0.10456	5/8/19 7:19	0.0245969	0.7365952	4.61635E+13	3.0842552	6.70217E+12	0.0206953	0.6197553	3.0842552
504	5860.24	575125	0.1049602	5/8/19 7:24	0.0245969	0.7365952	4.59578E+13	3.0960609	6.70217E+12	0.0230157	0.6892435	3.0960609
505	5855.35	575125	0.1048726	5/8/19 7:29	0.0245969	0.7365952	4.59578E+13	3.0934774	6.70217E+12	0.0225888	0.6764593	3.0934774
506	5861.24	575125	0.1049781	5/8/19 7:34	0.0245969	0.7365952	4.59578E+13	3.0965892	6.70217E+12	0.0205788	0.6162665	3.0965892
507	5864.22	575125	0.1050315	5/8/19 7:39	0.0245969	0.7365952	4.59578E+13	3.0981636	6.70217E+12	0.0197214	0.5905902	3.0981636
508	5855.4	575125	0.1047335	5/8/19 7:44	0.0245969	0.7365952	4.59578E+13	3.0935039	6.70217E+12	0.0198359	0.5940191	3.0935039
509	5848.68	575126	0.102448	5/8/19 7:49	0.0245969	0.7365952	4.69919E+13	3.0219576	6.70217E+12	0.0296779	0.8887542	3.0219576
510	5843.55	575127	0.1024751	5/8/19 7:54	0.0245969	0.7365952	4.69382E+13	3.0227572	6.70217E+12	0.0208223	0.6235585	3.0227572
511	5851.77	575127	0.1026193	5/8/19 7:59	0.0245969	0.7365952	4.69382E+13	3.0270092	6.70217E+12	0.0230156	0.6892405	3.0270092
512	5849.49	575127	0.1025793	5/8/19 8:04	0.0242095	0.7249938	4.69382E+13	3.0258298	6.70217E+12	0.0232039	0.6948795	3.0258298
513	5849.48	575129	0.1024537	5/8/19 8:09	0.0242095	0.7249938	4.69957E+13	3.0221242	6.70217E+12	0.0199092	0.5962142	3.0221242
514	5848.2	575130	0.1023337	5/8/19 8:14	0.0242095	0.7249938	4.704085E+13	3.0185855	6.70217E+12	0.0193885	0.5806209	3.0185855
515	5833.78	575131	0.1018159	5/8/19 8:19	0.0242095	0.7249938	4.71632E+13	3.0033105	6.70217E+12	0.0228642	0.6847066	3.0033105
516	5845.68	575131	0.1020236	5/8/19 8:24	0.0242095	0.7249938	4.71632E+13	3.0094368	6.70217E+12	0.0197323	0.5909166	3.0094368
517	5850.11	575133	0.101054	5/8/19 8:29	0.0242095	0.7249938	4.76518E+13	2.9808362	6.70217E+12	0.0210194	0.629461	2.9808362
518	5849.94	575134	0.101143	5/8/19 8:34	0.0242095	0.7249938	4.76084E+13	2.9834634	6.70217E+12	0.0253845	0.7601812	2.9834634
519	5844.18	575135	0.1003625	5/8/19 8:39	0.0242095	0.7249938	4.79315E+13	2.9604385	6.70217E+12	0.0187378	0.5611347	2.9604385
520	5844.99	575136	0.1007176	5/8/19 8:45	0.0242095	0.7249938	4.77691E+13	2.9709144	6.70217E+12	0.0201853	0.6044825	2.9709144
521	5856.45	575136	0.1009151	5/8/19 8:50	0.0242095	0.7249938	4.77691E+13	2.9767393	6.70217E+12	0.0212258	0.635642	2.9767393
522	5861.07	575136	0.1009947	5/8/19 8:55	0.0242095	0.7249938	4.77691E+13	2.9790876	6.70217E+12	0.0203371	0.6090284	2.9790876
523	5859.02	575136	0.1009594	5/8/19 9:00	0.0244939	0.7335107	4.77691E+13	2.9780456	6.70217E+12	0.0193291	0.5788421	2.9780456
524	5865.61	575136	0.1010729	5/8/19 9:05	0.0244939	0.7335107	4.77691E+13	2.9813952	6.70217E+12	0.0272511	0.8160796	2.9813952
525	5854.26	575136	0.1008773	5/8/19 9:10	0.0244939	0.7335107	4.77691E+13	2.9756262	6.70217E+12	0.0236817	0.709188	2.9756262
526	5831.3	575137	0.1018101	5/8/19 9:15	0.0244939	0.7335107	4.71458E+13	3.0031404	6.70217E+12	0.0214968	0.64376289	3.0031404
527	5839.16	575137	0.1019473	5/8/19 9:20	0.0244939	0.7335107	4.71458E+13	3.0071883	6.70217E+12	0.02149291	0.64364101	3.0071883
528	5843.2	575137	0.1020179	5/8/19 9:25	0.0244939	0.7335107	4.71458E+13	3.0092689	6.70217E+12	0.0257293	0.8244108	3.0092689
529	5841.15	575137	0.1019821	5/8/19 9:30	0.0244939	0.7335107	4.71458E+13	3.0082132	6.70217E+12	0.0429576	1.2864369	3.0082132
530	5849.05	575139	0.1011946	5/8/19 9:35	0.0244939	0.7335107	4.75777E+13	2.9849829	6.70217E+12	0.0232529	0.6963468	2.9849829
531	5857.36	575140	0.0999202	5/8/19 9:40	0.0244939	0.7335107	4.82522E+13	2.947394	6.70217E+12	0.0229391	0.6869496	2.947394
532	5857.91	575140	0.0999296	5/8/19 9:45	0.0244939	0.7335107	4.82522E+13	2.9476708	6.70217E+12	0.0235124	0.704118	2.9476708
533	5864.03	575140	0.100034	5/8/19 9:50	0.0244939	0.7335107	4.82522E+13	2.9507504	6.70217E+12	0.0259313	0.776556	2.9507504
534	5868.53	575142	0.0972217	5/8/19 9:55	0.0244939	0.7335107	4.96861E+13	2.8677931	6.70217E+12	0.0202099	0.6052191	2.8677931
535	5857.64	575143	0.0964425	5/8/19 10:00	0.0273545	0.8191761	4.99946E+13	2.8448083	6.70217E+12	0.018816	0.5634765	2.8448083
536	5866.7	575143	0.0965916	5/8/19 10:05	0.0273545	0.8191761	4.99946E+13	2.8492083	6.70217E+12	0.0166105	0.4974291	2.8492083
537	5863.82	575143	0.0965442	5/8/19 10:10	0.0273545	0.8191761	4.99946E+13	2.8478096	6.70217E+12	0.0189675	0.5680134	2.8478096
538	5866.01	575143	0.0965803	5/8/19 10:15	0.0273545	0.8191761	4.99946E+13	2.8488732	6.70217E+12	0.0207265	0.6206896	2.8488732
539	5864.99	575144	0.0934511	5/8/19 10:20	0.0273545	0.8191761	5.16596E+13	2.7565705	6.70217E+12	0.0230154	0.6892345	2.7565705
540	5879.4	575144	0.0936807	5/8/19 10:25	0.0273545	0.8191761	5.16596E+13	2.7633433	6.70217E+12	0.022665	0.6787412	2.7633433
541	5893.62	575144	0.0939073	5/8/19 10:30	0.0273545	0.8191761	5.16596E+13	2.7700267	6.70217E+12	0.026083	0.7810989	2.7700267
542	5896.01	575144	0.0939454	5/8/19 10:35	0.0273545	0.8191761	5.16596E+13	2.77115	6.70217E+12	0.0230839	0.6912859	2.77115
543	5888.01	575145										

	A	B	C	D	E	F	G	H	I	J	K	L
571	5880.23	575159	0.0935804	5/8/19 13:01	0.0224056	0.670973	5.17223E+13	2.7603855	6.70217E+12	0.0220558	0.6604977	2.7603855
572	5884.79	575159	0.093653	5/8/19 13:06	0.0224056	0.670973	5.17223E+13	2.7625261	6.70217E+12	0.0232481	0.6962031	2.7625261
573	5887.12	575159	0.0936901	5/8/19 13:11	0.0224056	0.670973	5.17223E+13	2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
574	5882.83	575159	0.0936218	5/8/19 13:16	0.0224056	0.670973	5.17223E+13	2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
575	5887.05	575160	0.095298	5/8/19 13:21	0.0224056	0.670973	5.0849E+13	2.8110496	6.70217E+12	0.0210217	0.6295298	2.8110496
576	5885.01	575161	0.0954767	5/8/19 13:26	0.0224056	0.670973	5.07362E+13	2.8163217	6.70217E+12	0.0209618	0.627736	2.8163217
577	5877.03	575161	0.0953473	5/8/19 13:31	0.0224056	0.670973	5.07362E+13	2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
578	5864.5	575163	0.0928787	5/8/19 13:36	0.0224056	0.670973	5.19737E+13	2.7396868	6.70217E+12	0.0197032	0.5900452	2.7396868
579	5878.37	575163	0.0930984	5/8/19 13:41	0.0224056	0.670973	5.19737E+13	2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
580	5884.42	575163	0.0931942	5/8/19 13:46	0.0224056	0.670973	5.19737E+13	2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
581	5882.28	575163	0.0931603	5/8/19 13:51	0.0224056	0.670973	5.19737E+13	2.747993	6.70217E+12	0.0286405	0.8576875	2.747993
582	5884.83	575163	0.0932007	5/8/19 13:56	0.0224056	0.670973	5.19737E+13	2.7491843	6.70217E+12	0.0262751	0.7868517	2.7491843
583	5884.52	575164	0.0946934	5/8/19 14:01	0.0200678	0.6009637	5.11517E+13	2.793214	6.70217E+12	0.027166	0.8135311	2.793214
584	5879.67	575164	0.0946153	5/8/19 14:06	0.0200678	0.6009637	5.11517E+13	2.7909119	6.70217E+12	0.0243166	0.7282011	2.7909119
585	5877.49	575164	0.0945802	5/8/19 14:11	0.0200678	0.6009637	5.11517E+13	2.7898771	6.70217E+12	0.0208701	0.6249899	2.7898771
586	5887.28	575166	0.0950829	5/8/19 14:16	0.0200678	0.6009637	5.0966E+13	2.8047039	6.70217E+12	0.0218292	0.6537118	2.8047039
587	5884.05	575166	0.0950307	5/8/19 14:21	0.0200678	0.6009637	5.0966E+13	2.8031651	6.70217E+12	0.0217633	0.6517383	2.8031651
588	5885.12	575166	0.095048	5/8/19 14:26	0.0200678	0.6009637	5.0966E+13	2.8036749	6.70217E+12	0.0217781	0.6521815	2.8036749
589	5902.91	575167	0.0961455	5/8/19 14:31	0.0200678	0.6009637	5.05365E+13	2.836049	6.70217E+12	0.021451	0.6423859	2.836049
590	5902.72	575167	0.0961424	5/8/19 14:36	0.0200678	0.6009637	5.05365E+13	2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
591	5906.61	575167	0.0962058	5/8/19 14:41	0.0200678	0.6009637	5.05365E+13	2.8378267	6.70217E+12	0.0426523	1.2772942	2.8378267
592	5912.28	575167	0.0962981	5/8/19 14:46	0.0200678	0.6009637	5.05365E+13	2.8405508	6.70217E+12	0.0296116	5.986686	5.986686
593	5908.65	575170	0.095031	5/8/19 14:51	0.0200678	0.6009637	5.1179E+13	2.8031727	6.70217E+12	0.2670565	7.997452	7.997452
594	5900.02	575170	0.0948922	5/8/19 14:56	0.0200678	0.6009637	5.1179E+13	2.7990785	6.70217E+12	0.0299601	0.8972051	2.7990785
595	5884.23	575171	0.0950701	5/8/19 15:01	0.0170556	0.5107584	5.09465E+13	2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
596	5890.02	575171	0.0951636	5/8/19 15:06	0.0170556	0.5107584	5.09465E+13	2.8070857	6.70217E+12	0.0254303	0.7615527	2.8070857
597	5890.65	575171	0.0951738	5/8/19 15:11	0.0170556	0.5107584	5.09465E+13	2.8073859	6.70217E+12	0.0264722	0.7927541	2.8073859
598	5868.34	575171	0.0948133	5/8/19 15:16	0.0170556	0.5107584	5.09465E+13	2.7967533	6.70217E+12	0.0232906	0.6974738	2.7967533
599	5883.01	575172	0.0962041	5/8/19 15:21	0.0170556	0.5107584	5.03355E+13	2.837777	6.70217E+12	0.0222339	0.6655317	2.837777
600	5877.22	575172	0.0961094	5/8/19 15:26	0.0170556	0.5107584	5.03355E+13	2.8349841	6.70217E+12	0.021497	0.6437635	2.8349841
601	5882.35	575173	0.0955836	5/8/19 15:31	0.0170556	0.5107584	5.06566E+13	2.8194728	6.70217E+12	0.0233908	0.7004765	2.8194728
602	5895.23	575174	0.0960485	5/8/19 15:36	0.0170556	0.5107584	5.05218E+13	2.8331879	6.70217E+12	0.0260191	0.7791853	2.8331879
603	5891.02	575174	0.0959799	5/8/19 15:41	0.0170556	0.5107584	5.05218E+13	2.8311646	6.70217E+12	0.0204508	0.6124333	2.8311646
604	5895.3	575174	0.0960497	5/8/19 15:46	0.0170556	0.5107584	5.05218E+13	2.8332215	6.70217E+12	0.0203869	0.6105197	2.8332215
605	5898.69	575174	0.0961049	5/8/19 15:51	0.0170556	0.5107584	5.05218E+13	2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
606	5898.34	575175	0.0970802	5/8/19 15:56	0.0170556	0.5107584	5.00112E+13	2.863621	6.70217E+12	0.0209194	0.6264663	2.863621
607	5900.14	575176	0.0971661	5/8/19 16:01	0.0174326	0.5220483	4.99823E+13	2.8661537	6.70217E+12	0.0209977	0.6288111	2.8661537
608	5891.31	575176	0.0970207	5/8/19 16:06	0.0174326	0.5220483	4.99823E+13	2.8618643	6.70217E+12	0.0203367	0.6090164	2.8618643
609	5893.65	575176	0.0970592	5/8/19 16:11	0.0174326	0.5220483	4.99823E+13	2.863001	6.70217E+12	0.0213506	0.6393793	2.863001
610	5892.53	575177	0.0969298	5/8/19 16:16	0.0174326	0.5220483	5.00395E+13	2.8591849	6.70217E+12	0.0261533	0.7832042	2.8591849
611	5894.16	575177	0.0969567	5/8/19 16:21	0.0174326	0.5220483	5.00395E+13	2.8599758	6.70217E+12	0.0258626	0.7744987	2.8599758
612	5895.84	575178	0.097646	5/8/19 16:26	0.0174326	0.5220483	4.97004E+13	2.88031	6.70217E+12	0.0215949	0.6466953	2.88031
613	5896.89	575179	0.0980892	5/8/19 16:31	0.0174326	0.5220483	4.94846E+13	2.8933819	6.70217E+12	0.0198411	0.5941748	2.8933819
614	5902.19	575180	0.0983841	5/8/19 16:36	0.0174326	0.5220483	4.93807E+13	2.9020809	6.70217E+12	0.0207134	0.6202973	2.9020809
615	5905.9	575181	0.097534	5/8/19 16:41	0.0174326	0.5220483	4.98424E+13	2.8770052	6.70217E+12	0.0223016	0.6678566	2.8770052
616	5906.84	575181	0.0975495	5/8/19 16:46	0.0174326	0.5220483	4.98424E+13	2.8774631	6.70217E+12	0.0254538	0.7622585	2.8774631
617	5904.42	575181	0.0975095	5/8/19 16:51	0.0174326	0.5220483	4.98424E+13	2.8762842	6.70217E+12	0.025079	0.7510325	2.8762842
618	5903.02	575181	0.0974864	5/8/19 16:56	0.0174326	0.5220483	4.98424E+13	2.8756022	6.70217E+12	0.0246071	0.7369006	2.8756022
619	5894.63	575182	0.0989154	5/8/19 17:01	0.0174032	0.5211678	4.90525E+13	2.9177544	6.70217E+12	0.0226389	0.6779596	2.9177544
620	5898.06	575182	0.098973	5/8/19 17:06	0.0174032	0.5211678	4.90525E+13	2.9194522	6.70217E+12	0.0256642	0.7685572	2.9194522
621	5891.22	575182	0.0988582	5/8/19 17:11	0.0174032	0.5211678	4.90525E+13	2.9160665	6.70217E+12	0.0384273	1.1507695	2.9160665
622	5888.49	575182	0.0988124	5/8/19 17:16	0.0174032	0.5211678	4.90525E+13	2.9147151	6.70217E+12	0.0364449	1.0914033	2.9147151
623	5895.57	575183	0.0996828	5/8/19 17:21	0.0174032	0.5211678	4.86826E+13	2.9403898	6.70217E+12	0.0191003	0.5719903	2.9403898
624	5896.91	575183	0.0997054	5/8/19 17:26	0.0174032	0.5211678	4.86826E+13	2.9410582	6.70217E+12	0.0230176	0.6893004	2.9410582
625	5918.72	575183	0.1000742	5/8/19 17:31	0.0174032	0.5211678	4.86826E+13	2.9519358	6.70217E+12	0.0300289	0.0907055	2.9519358
626	5926.18	575183	0.1002003	5/8/19 17:36	0.0174032	0.5211678	4.86826E+13	2.9556564	6.70217E+12	0.0439309	1.315584	2.9556564
627	5934.97	575183	0.100349	5/8/19 17:41	0.0174032	0.5211678	4.86826E+13	2.9600404	6.70217E+12	0.0408583	1.2235699	2.9600404
628	5944.99	575185	0.100551	5/8/19 17:46	0.0174032	0.5211678	4.86669E+13	2.9659989	6.70217E+12	0.0170991	0.512061	2.9659989
629	5940.01	575185	0.1004667	5/8/19 17:51	0.0174032	0.5211678	4.86669E+13	2.9635144	6.70217E+12	0.0183967	0.5509198	2.9635144
630	5931.52	575186	0.1008871	5/8/19 17:56	0.0174032	0.5211678	4.83948E+13	2.9759139	6.70217E+12	0.0163528	0.4897119	2.9759139
631	5938.6	575188	0.0986457	5/8/19 18:01	0.0165475	0.4955425	4.95535E+13	2.9097985	6.70217E+12	0.0158884	0.5566606	2.9097985
632	5931.02	575189	0.0980181	5/8/19 18:06	0.0165475	0.4955425	4.98071E+13	2.8912849	6.70217E+12	0.0173413	0.5193141	2.8912849
633	5928.19	575189	0.0979713	5/8/19 18:12	0.0165475	0.4955425	4.98071E+13	2.8899053	6.70217E+12	0.0187899	0.5626949	2.8899053
634	5932.23	575189	0.0980381	5/8/19 18:17	0.0165475	0.4955425	4.98071E+13	2.8918748	6.70217E+12	0.0180684	0.5410884	2.8918748
635	5931.78	575189	0.0980306	5/8/19 18:22	0.0165475	0.4955425	4.98071E+13	2.8916554	6.70217E+12	0.0164812	0.493557	2.8916554
636	5964.15	575189	0.0985656	5/8/19 18:27	0.0165475	0.4955425	4.98071E+13	2.9074353	6.70217E+12	0.0180238	0.5397527	2.9074353
637	5899.89	575189	0.0975036	5/8/19 18:32	0.0165475	0.4955425	4.98071E+13	2.8761095	6.70217E+12	0.0168118	0.5034574	2.8761095
638												

	A	B	C	D	E	F	G	H	I	J	K	L
666	6054.77	575206	0.1045618	5/8/19 20:57	0.013261	0.3971227	4.76643E+13	3.084309	6.70217E+12	0.0122348	0.3663915	3.084309
667	6045.31	575206	0.1043985	5/8/19 21:02	0.0057558	0.172367	4.76643E+13	3.0794901	6.70217E+12	0.0113115	0.3387417	3.0794901
668	6042.99	575207	0.1043195	5/8/19 21:07	0.0057558	0.172367	4.7682E+13	3.0771614	6.70217E+12	0.0064092	0.1919342	3.0771614
669	6038.47	575207	0.1042415	5/8/19 21:12	0.0057558	0.172367	4.7682E+13	3.0748598	6.70217E+12	0.0050076	0.1499609	3.0748598
670	6046.62	575207	0.1043822	5/8/19 21:17	0.0057558	0.172367	4.7682E+13	3.0790099	6.70217E+12	0.0026668	-0.0798618	3.0790099
671	6044.8	575207	0.1043508	5/8/19 21:22	0.0057558	0.172367	4.7682E+13	3.0780831	6.70217E+12	0.0105849	0.3169825	3.0780831
672	6048.33	575207	0.1044117	5/8/19 21:27	0.0057558	0.172367	4.7682E+13	3.0798806	6.70217E+12	0.0086089	0.2578079	3.0798806
673	6052.87	575208	0.1057954	5/8/19 21:32	0.0057558	0.172367	4.70937E+13	3.1206959	6.70217E+12	0.0018	0.053904	3.1206959
674	6056.61	575210	0.1055202	5/8/19 21:37	0.0057558	0.172367	4.72457E+13	3.1125773	6.70217E+12	-0.0021614	-0.0647267	3.1125773
675	6059.99	575212	0.0995054	5/8/19 21:42	0.0057558	0.172367	5.01295E+13	2.9351584	6.70217E+12	-0.0034416	-0.1030644	2.9351584
676	6049.69	575213	0.0988159	5/8/19 21:47	0.0057558	0.172367	5.03935E+13	2.9148188	6.70217E+12	-0.0015146	-0.0453572	2.9148188
677	6056.42	575214	0.0996142	5/8/19 21:52	0.0057558	0.172367	5.00453E+13	2.9383674	6.70217E+12	-0.0023178	-0.0694104	2.9383674
678	6045.27	575214	0.0994308	5/8/19 21:57	0.0057558	0.172367	5.00453E+13	2.9329578	6.70217E+12	0.0029429	0.08813	2.9329578
679	6041.19	575214	0.0993637	5/8/19 22:02	-0.0039885	-0.1194423	5.00453E+13	2.9309783	6.70217E+12	0.0028846	0.0863842	2.9309783
680	6033.23	575215	0.0986577	5/8/19 22:07	-0.0039885	-0.1194423	5.0337E+13	2.9101535	6.70217E+12	-0.0021717	-0.0650352	2.9101535
681	6034.99	575215	0.0986865	5/8/19 22:12	-0.0039885	-0.1194423	5.0337E+13	2.9110025	6.70217E+12	0.0094236	0.2822054	2.9110025
682	6042.83	575215	0.0988147	5/8/19 22:17	-0.0039885	-0.1194423	5.0337E+13	2.9147841	6.70217E+12	-0.0117128	-0.3507593	2.9147841
683	6033.48	575216	0.0981874	5/8/19 22:22	-0.0039885	-0.1194423	5.05802E+13	2.8962791	6.70217E+12	-0.0071632	-0.214514	2.8962791
684	6028.01	575217	0.0985494	5/8/19 22:27	-0.0039885	-0.1194423	5.03487E+13	2.9069577	6.70217E+12	-0.0043047	-0.1289114	2.9069577
685	6027.43	575217	0.0985399	5/8/19 22:32	-0.0039885	-0.1194423	5.03487E+13	2.906678	6.70217E+12	-0.0026014	-0.0779033	2.906678
686	6029.94	575217	0.098581	5/8/19 22:37	-0.0039885	-0.1194423	5.03487E+13	2.9078884	6.70217E+12	-0.0017683	-0.0529547	2.9078884
687	6039.16	575219	0.0983331	5/8/19 22:42	-0.0039885	-0.1194423	5.05528E+13	2.9005763	6.70217E+12	-0.0018002	-0.05391	2.9005763
688	6039.06	575221	0.0975716	5/8/19 22:47	-0.0039885	-0.1194423	5.09465E+13	2.8781157	6.70217E+12	0.0035525	0.1063855	2.8781157
689	6035.97	575221	0.0975217	5/8/19 22:52	-0.0039885	-0.1194423	5.09465E+13	2.876643	6.70217E+12	-0.0028608	-0.0856714	2.876643
690	6041.91	575222	0.0971742	5/8/19 22:57	-0.0039885	-0.1194423	5.1179E+13	2.8663937	6.70217E+12	-0.0044334	-0.1327656	2.8663937
691	6066.64	575224	0.1014592	5/9/19 0:02	-0.0060127	-0.1800603	4.92181E+13	2.9927906	6.70217E+12	-0.0145142	-0.4346519	2.9927906
692	6072.36	575225	0.1021048	5/9/19 0:07	-0.0060127	-0.1800603	4.89531E+13	3.0118316	6.70217E+12	-0.0130235	-0.3900104	3.0118316
693	6068.07	575225	0.1020326	5/9/19 0:12	-0.0060127	-0.1800603	4.89531E+13	3.0097038	6.70217E+12	-0.0286682	-0.858517	3.0097038
694	6076.08	575225	0.1021673	5/9/19 0:17	-0.0060127	-0.1800603	4.89531E+13	3.0136767	6.70217E+12	-0.0231556	-0.693433	3.0136767
695	6077.05	575225	0.1021836	5/9/19 0:22	-0.0060127	-0.1800603	4.89531E+13	3.0141578	6.70217E+12	-0.0015472	-0.0463335	3.0141578
696	6056.56	575225	0.1018391	5/9/19 0:27	-0.0060127	-0.1800603	4.89531E+13	3.003995	6.70217E+12	-0.0012057	-0.0361067	3.003995
697	6053.34	575225	0.1017849	5/9/19 0:37	-0.0060127	-0.1800603	4.89531E+13	3.0023979	6.70217E+12	-0.0181456	-0.5434002	3.0023979
698	6047.02	575227	0.1035951	5/9/19 0:42	-0.0060127	-0.1800603	4.80475E+13	3.0557938	6.70217E+12	-0.0191353	-0.5730385	3.0557938
699	6061.54	575227	0.1038435	5/9/19 0:47	-0.0060127	-0.1800603	4.80475E+13	3.0631212	6.70217E+12	-0.0107209	-0.3210552	3.0631212
700	6050.01	575229	0.103384	5/9/19 0:52	-0.0060127	-0.1800603	4.81694E+13	3.0495651	6.70217E+12	0.0010001	0.0299497	3.0495651
701	6044.15	575229	0.1032838	5/9/19 0:57	-0.0060127	-0.1800603	4.81694E+13	3.0466114	6.70217E+12	-0.0040798	-0.1221764	3.0466114
702	6044.76	575229	0.1032943	5/9/19 1:02	-0.0084514	-0.2530913	4.81694E+13	3.0469188	6.70217E+12	-0.0033111	-0.0991564	3.0469188
703	6039.56	575229	0.1032054	5/9/19 1:07	-0.0084514	-0.2530913	4.81694E+13	3.0442977	6.70217E+12	-0.0031204	-0.0934456	3.0442977
704	6042.9	575231	0.1030119	5/9/19 1:12	-0.0084514	-0.2530913	4.82866E+13	3.0385906	6.70217E+12	-0.0012951	-0.0387839	3.0385906
705	6042.77	575232	0.1030817	5/9/19 1:17	-0.0084514	-0.2530913	4.82528E+13	3.0406489	6.70217E+12	-0.0005672	-0.0169857	3.0406489
706	6053.94	575233	0.1033545	5/9/19 1:22	-0.0084514	-0.2530913	4.82145E+13	3.0486951	6.70217E+12	-0.0121807	-0.3647714	3.0486951
707	6056.93	575233	0.1034055	5/9/19 1:27	-0.0084514	-0.2530913	4.82145E+13	3.0502008	6.70217E+12	-0.0149888	-0.4488646	3.0502008
708	6055.69	575233	0.1033843	5/9/19 1:32	-0.0084514	-0.2530913	4.82145E+13	3.0495763	6.70217E+12	-0.0147726	-0.4423901	3.0495763
709	6058.16	575233	0.1034265	5/9/19 1:37	-0.0084514	-0.2530913	4.82145E+13	3.0508202	6.70217E+12	-0.0157309	-0.471088	3.0508202
710	6059.3	575234	0.1038084	5/9/19 1:42	-0.0084514	-0.2530913	4.80461E+13	3.0620845	6.70217E+12	-0.0227758	-0.6820593	3.0620845
711	6061.34	575235	0.1031342	5/9/19 1:47	-0.0084514	-0.2530913	4.83765E+13	3.0421965	6.70217E+12	-0.0265233	-0.7942844	3.0421965
712	6073.89	575235	0.1033477	5/9/19 1:52	-0.0084514	-0.2530913	4.83765E+13	3.0484953	6.70217E+12	-0.0258125	-0.7729983	3.0484953
713	6070.6	575236	0.1036534	5/9/19 1:57	-0.0084514	-0.2530913	4.82077E+13	3.0575115	6.70217E+12	-0.0270166	-0.8090571	3.0575115
714	6070.34	575237	0.1039744	5/9/19 2:02	-0.009959	-0.2982389	4.80568E+13	3.0669809	6.70217E+12	-0.0241909	-0.7244368	3.0669809
715	6070.64	575238	0.1033994	5/9/19 2:07	-0.009959	-0.2982389	4.83264E+13	3.0500217	6.70217E+12	-0.0192845	-0.5775065	3.0500217
716	6066.1	575238	0.1033221	5/9/19 2:12	-0.009959	-0.2982389	4.83264E+13	3.0477407	6.70217E+12	-0.0253576	-0.7593756	3.0477407
717	6051.34	575238	0.1030707	5/9/19 2:17	-0.009959	-0.2982389	4.83264E+13	3.040325	6.70217E+12	-0.0277084	-0.8297742	3.040325
718	6061.78	575239	0.1040791	5/9/19 2:22	-0.009959	-0.2982389	4.79408E+13	3.0700698	6.70217E+12	-0.0259793	-0.7779934	3.0700698
719	6063.51	575239	0.1041088	5/9/19 2:27	-0.009959	-0.2982389	4.79408E+13	3.070946	6.70217E+12	-0.0268247	-0.8033103	3.070946
720	6069.07	575240	0.1042563	5/9/19 2:32	-0.009959	-0.2982389	4.79168E+13	3.0752977	6.70217E+12	-0.0240329	-0.7197052	3.0752977
721	6065.45	575242	0.1026794	5/9/19 2:37	-0.009959	-0.2982389	4.86237E+13	3.0287832	6.70217E+12	-0.0250565	-0.7503587	3.0287832
722	6056.78	575242	0.1025327	5/9/19 2:43	-0.009959	-0.2982389	4.86237E+13	3.0244539	6.70217E+12	-0.0183811	-0.5504527	3.0244539
723	6054.89	575242	0.1025007	5/9/19 2:48	-0.009959	-0.2982389	4.86237E+13	3.0235101	6.70217E+12	-0.0211004	-0.6318866	3.0235101
724	6052.82	575243	0.1032503	5/9/19 2:53	-0.009959	-0.2982389	4.82542E+13	3.0456209	6.70217E+12	-0.0280966	-0.8413995	3.0456209
725	6054.43	575243	0.1032777	5/9/19 2:58	-0.009959	-0.2982389	4.82542E+13	3.046431	6.70217E+12	-0.0255341	-0.7466612	3.046431
726	6054.32	575244	0.1033884	5/9/19 3:03	-0.0077595	-0.2323712	4.82017E+13	3.049695	6.70217E+12	-0.0035264	-0.1056039	3.049695
727	6068.65	575246	0.1006368	5/9/19 3:08	-0.0077595	-0.2323712	4.96368E+13	2.9685297	6.70217E+12	-0.0237767	-0.7120329	2.9685297
728	6068.33	575249	0.0992317	5/9/19 3:13	-0.0077595	-0.2323712	5.0337E+13	2.9270841	6.70217E+12	-0.0227655	-0.6817508	2.9270841
729	6063.73	575250	0.0992085	5/9/19 3:18	-0.0077595	-0.2323712	5.03106E+13	2.9263997	6.70217E+12	-0.0241747	-0.7239517	2.9263997
730	6046.71	575250	0.09893	5/9/19 3:23	-0.0077595	-0.2323712	5.03106E+13	2.9181857	6.70217E+12	-0.0246606	-0.7385028	2.9181857
731	6046.74	575251	0.099455	5/9/19 3:28	-0.0077595	-0.2323712	5.00453E+13	2.933671	6.70217E+12	-0.028565	-0.684476	2.933671
732	6058.26	575252	0.0992865	5/9/19 3:33	-0.0077595	-0.2323712	5.02257E+13	2.9286995	6.70217E+12	-0.0237663	-0.7117125	2.9

	A	B	C	D	E	F	G	H	I	J	K	L
761	6044.98	575261	0.1039808	5/9/19 5:58	-0.001004	-0.0300665	4.78531E+13	3.0671699	6.70217E+12	-0.0198792	-0.5953158	3.0671699
762	6040.28	575262	0.1043375	5/9/19 6:03	0.0099891	0.2991402	4.76524E+13	3.077692	6.70217E+12	-0.0173633	-0.519973	3.077692
763	6034.01	575263	0.1041918	5/9/19 6:08	0.0099891	0.2991402	4.76695E+13	3.0733946	6.70217E+12	-0.018275	-0.5472753	3.0733946
764	6034.26	575263	0.1041961	5/9/19 6:13	0.0099891	0.2991402	4.76695E+13	3.0735219	6.70217E+12	-0.0079803	-0.2389834	3.0735219
765	6037.47	575263	0.1042516	5/9/19 6:18	0.0099891	0.2991402	4.76695E+13	3.0751569	6.70217E+12	-0.0028126	-0.084228	3.0751569
766	6035.61	575264	0.1036859	5/9/19 6:23	0.0099891	0.2991402	4.79148E+13	3.0584702	6.70217E+12	-0.0009188	-0.027515	3.0584702
767	6032.26	575264	0.1036283	5/9/19 6:28	0.0099891	0.2991402	4.79148E+13	3.0567726	6.70217E+12	-0.0017763	-0.0531943	3.0567726
768	6035.08	575266	0.1012996	5/9/19 6:33	0.0099891	0.2991402	4.90392E+13	2.988081	6.70217E+12	-0.0029613	-0.0886811	2.988081
769	6038.27	575266	0.1013531	5/9/19 6:38	0.0099891	0.2991402	4.90392E+13	2.9896604	6.70217E+12	-0.0017698	-0.0529996	2.9896604
770	6038.35	575267	0.1004336	5/9/19 6:43	0.0099891	0.2991402	4.94889E+13	2.9625364	6.70217E+12	-0.0040978	-0.1227155	2.9625364
771	6041.06	575267	0.1004787	5/9/19 6:48	0.0099891	0.2991402	4.94889E+13	2.963866	6.70217E+12	-0.0041121	-0.1231437	2.963866
772	6032.6	575269	0.1003466	5/9/19 6:53	0.0099891	0.2991402	4.94846E+13	2.9599697	6.70217E+12	-0.0017941	-0.0537273	2.9599697
773	6038.62	575269	0.1004467	5/9/19 6:58	0.0099891	0.2991402	4.94846E+13	2.9629235	6.70217E+12	-0.0169009	-0.5061256	2.9629235
774	6023.18	575269	0.1001899	5/9/19 7:03	0.015734	0.4711809	4.94846E+13	2.9553477	6.70217E+12	-0.0127165	-0.3808168	2.9553477
775	6018.06	575270	0.100393	5/9/19 7:08	0.015734	0.4711809	4.93426E+13	2.9613379	6.70217E+12	-0.0057831	-0.1731846	2.9613379
776	6028.56	575270	0.1005681	5/9/19 7:13	0.015734	0.4711809	4.93426E+13	2.9665047	6.70217E+12	-0.0011814	-0.035379	2.9665047
777	6023.05	575271	0.1000255	5/9/19 7:18	0.015734	0.4711809	4.95649E+13	2.9505	6.70217E+12	-0.0018878	-0.0565333	2.9505
778	6002.6	575271	0.0996859	5/9/19 7:23	0.015734	0.4711809	4.95649E+13	2.9404822	6.70217E+12	-0.0019315	-0.057842	2.9404822
779	6004.55	575271	0.0997183	5/9/19 7:28	0.015734	0.4711809	4.95649E+13	2.9414374	6.70217E+12	-0.0032781	-0.0981682	2.9414374
780	6023.65	575271	0.1000355	5/9/19 7:33	0.015734	0.4711809	4.95649E+13	2.9507939	6.70217E+12	-0.0044118	-0.1321187	2.9507939
781	6022.52	575272	0.1006869	5/9/19 7:38	0.015734	0.4711809	4.9235E+13	2.9700094	6.70217E+12	-0.0183056	-0.5481917	2.9700094
782	6016.76	575272	0.1005906	5/9/19 7:43	0.015734	0.4711809	4.9235E+13	2.9671688	6.70217E+12	-0.004465	-0.1337119	2.9671688
783	6007.87	575272	0.100442	5/9/19 7:48	0.015734	0.4711809	4.9235E+13	2.9627847	6.70217E+12	-0.0011594	-0.0347202	2.9627847
784	5998.51	575272	0.1002855	5/9/19 7:53	0.015734	0.4711809	4.9235E+13	2.9581688	6.70217E+12	-0.0019525	-0.0584709	2.9581688
785	6004.67	575273	0.101848	5/9/19 7:58	0.015734	0.4711809	4.85294E+13	3.0042572	6.70217E+12	-0.016446	-0.4925029	3.0042572
786	5986.82	575273	0.1015452	5/9/19 8:03	0.0212738	0.6370794	4.85294E+13	2.9953265	6.70217E+12	-0.0226577	-0.6785226	2.9953265
787	5966.01	575273	0.1011922	5/9/19 8:08	0.0212738	0.6370794	4.85294E+13	2.9849149	6.70217E+12	-0.0040549	-0.1214307	2.9849149
788	5975.72	575273	0.1013569	5/9/19 8:13	0.0212738	0.6370794	4.85294E+13	2.989773	6.70217E+12	-0.0088876	0.266154	2.989773
789	5974.19	575273	0.101331	5/9/19 8:18	0.0212738	0.6370794	4.85294E+13	2.9890075	6.70217E+12	0.0059397	0.1778742	2.9890075
790	5989.16	575275	0.1021458	5/9/19 8:23	0.0212738	0.6370794	4.8263E+13	3.0130416	6.70217E+12	0.005809	0.1739602	3.0130416
791	5989.1	575275	0.1021448	5/9/19 8:28	0.0212738	0.6370794	4.8263E+13	3.0130114	6.70217E+12	0.0001868	0.005594	3.0130114
792	5990.38	575275	0.1021666	5/9/19 8:33	0.0212738	0.6370794	4.8263E+13	3.0136553	6.70217E+12	0.0010001	0.0299497	3.0136553
793	5999.35	575275	0.1023196	5/9/19 8:38	0.0212738	0.6370794	4.8263E+13	3.018168	6.70217E+12	-0.0026113	-0.0781997	3.018168
794	6009.99	575276	0.1040749	5/9/19 8:43	0.0212738	0.6370794	4.75331E+13	3.0699468	6.70217E+12	-0.0003791	0.0113528	3.0699468
795	6015.23	575276	0.1041657	5/9/19 8:48	0.0212738	0.6370794	4.75331E+13	3.0726234	6.70217E+12	0.0045541	0.1363801	3.0726234
796	6006.59	575276	0.1040161	5/9/19 8:53	0.0212738	0.6370794	4.75331E+13	3.0682101	6.70217E+12	0.0020439	0.061208	3.0682101
797	6012.06	575276	0.1041108	5/9/19 8:58	0.0212738	0.6370794	4.75331E+13	3.0710042	6.70217E+12	0.0057903	0.1734002	3.0710042
798	5997.24	575276	0.1038541	5/9/19 9:03	0.021087	0.6314854	4.75331E+13	3.063434	6.70217E+12	0.0154384	0.4615919	3.063434
799	6009.31	575277	0.1048522	5/9/19 9:08	0.021087	0.6314854	4.71754E+13	3.0928732	6.70217E+12	0.0077881	0.2360097	3.0928732
800	6014.99	575277	0.1049513	5/9/19 9:13	0.021087	0.6314854	4.71754E+13	3.0957966	6.70217E+12	0.0015859	0.0474924	3.0957966
801	6015.14	575277	0.1049539	5/9/19 9:18	0.021087	0.6314854	4.71754E+13	3.0958738	6.70217E+12	0.0110437	0.330722	3.0958738
802	6010.98	575277	0.1048813	5/9/19 9:23	0.021087	0.6314854	4.71754E+13	3.0937327	6.70217E+12	0.0082541	0.2471828	3.0937327
803	6015.8	575279	0.1061867	5/9/19 9:28	0.021087	0.6314854	4.66328E+13	3.13224	6.70217E+12	0.0098213	0.2941152	3.13224
804	6008.98	575281	0.1036694	5/9/19 9:33	0.021087	0.6314854	4.7711E+13	3.0579847	6.70217E+12	0.0137284	0.4111198	3.0579847
805	6005.02	575281	0.1036011	5/9/19 9:38	0.021087	0.6314854	4.7711E+13	3.0559695	6.70217E+12	0.0148862	0.4457921	3.0559695
806	5992.86	575281	0.1033913	5/9/19 9:43	0.021087	0.6314854	4.7711E+13	3.0497812	6.70217E+12	0.019156	0.5736583	3.0497812
807	6001.7	575281	0.1035438	5/9/19 9:48	0.021087	0.6314854	4.7711E+13	3.0542799	6.70217E+12	0.0155476	0.4655988	3.0542799
808	5996.77	575281	0.1034587	5/9/19 9:53	0.021087	0.6314854	4.7711E+13	3.051771	6.70217E+12	0.0127646	0.3822572	3.051771
809	5997.26	575281	0.1034672	5/9/19 9:58	0.021087	0.6314854	4.7711E+13	3.0520204	6.70217E+12	0.01036	0.3102475	3.0520204
810	5995.19	575281	0.1034315	5/9/19 10:03	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	-0.0001443	-0.0043213	3.050967
811	5995.19	575281	0.1034315	5/9/19 10:08	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	0.0134747	0.4035223	3.050967
812	5978.15	575281	0.1031375	5/9/19 10:13	0.0217322	0.6508069	4.7711E+13	3.0422953	6.70217E+12	0.0153319	0.4591393	3.0422953
813	5989.44	575281	0.1033323	5/9/19 10:18	0.0217322	0.6508069	4.7711E+13	3.0480408	6.70217E+12	0.016155	0.4837884	3.0480408
814	6001.74	575282	0.1070813	5/9/19 10:23	0.0217322	0.6508069	4.61352E+13	3.158626	6.70217E+12	0.0174376	0.522198	3.158626
815	6010.06	575282	0.1072297	5/9/19 10:28	0.0217322	0.6508069	4.61352E+13	3.1630047	6.70217E+12	0.0234385	0.7019049	3.1630047
816	6009.71	575283	0.1079065	5/9/19 10:33	0.0217322	0.6508069	4.58431E+13	3.1829698	6.70217E+12	0.0203173	0.6084354	3.1829698
817	5995.73	575283	0.1076555	5/9/19 10:38	0.0217322	0.6508069	4.58431E+13	3.1755655	6.70217E+12	0.019624	0.5876734	3.1755655
818	6000.73	575284	0.1065399	5/9/19 10:43	0.0217322	0.6508069	4.63618E+13	3.142657	6.70217E+12	0.0143614	0.4300761	3.142657
819	6007.62	575284	0.1066622	5/9/19 10:48	0.0217322	0.6508069	4.63618E+13	3.1462654	6.70217E+12	0.0184275	0.5518422	3.1462654
820	6006.48	575284	0.106642	5/9/19 10:53	0.0217322	0.6508069	4.63618E+13	3.1456683	6.70217E+12	0.0226632	0.6786873	3.1456683
821	5999.23	575284	0.1065133	5/9/19 10:58	0.0217322	0.6508069	4.63618E+13	3.1418714	6.70217E+12	0.2007318	6.0112483	6.0112483
822	6004.02	575284	0.1065983	5/9/19 11:03	0.0217961	0.6527205	4.63618E+13	3.14438	6.70217E+12	0.0307427	0.9206414	3.14438
823	6000.99	575284	0.1065445	5/9/19 11:08	0.0217961	0.6527205	4.63618E+13	3.1427931	6.70217E+12	0.0293874	0.8800547	3.1427931
824	6003.38	575284	0.1065869	5/9/19 11:13	0.0217961	0.6527205	4.63618E+13	3.1440448	6.70217E+12	0.0349274	1.0459592	3.1440448
825	6014.88	575284	0.1067911	5/9/19 11:18	0.0217961	0.6527205	4.63618E+13	3.1500675	6.70217E+12	0.0260766	0.7809072	3.1500675
826	6026.81	575284	0.1070029	5/9/19 11:24	0.0217961	0.6527205	4.63618E+13	3.1563154	6.70217E+12	0.0118225	0.3540445	3.1563154

Message

From: Austin Storms [austin@bearbox.io]
 on behalf of: Austin Storms <austin@bearbox.io> [austin@bearbox.io]
 Sent: 8/12/2020 5:08:48 PM
 To: Rajiv Patel [Rajiv@fermdo.com]; Michael Sacksteder [Msacksteder@fermdo.com]
 Subject: BearBox 20 product details and supporting documentation
 Attachments: BearBox Product Details Summary v1.pdf; Information Type - Sheet.pdf; L101 - Paper - Structure; LandC_Spec_Sheet.pdf; exel004_modeling_05092019.xlsx



Austin M. Storms
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated addressee(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

----- Forwarded message -----

From: Austin Storms <austin@bearbox.io>
 Date: Thu, May 9, 2019 at 11:32 AM
 Subject: BearBox 20 product details and supporting documentation
 To: Michael [michael@fermdo.com]

Hey Michael,

See attached for the 20' BearBox product details and some supporting docs. I've also attached some recent modeling data from one of the Exelon wind farms (based on publicly available marketplace data) - I can model for you pricing node you guys might be interested in reviewing.

Let me know if you have any questions!

Talk soon,

-

Austin M. Storms
 BearBox, LLC
 611 O Keefe Avenue
 New Orleans, LA 70113
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally

Bearbox v Lancium
 Trial Exhibit
 TX906

HIGHLY CONFIDENTIAL - ATTORNEYS EYES ONLY

BB10000005

Appx13371

privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.



BearBox

Product details: BearBox V205 (Bitmain S9, Dragonmint T1, or similar)

Physical Dimensions:

- External: 10' L x 8' W x 8'6" H
- Internal: 10' L x 7'8" W x 7'5" H
- Door Opening: 7'8" W x 7'7" H
- Weight: 2,800 lbs. – installed equipment

Electrical System:

- 3-Phase, 4-Wire 480Y/240V
- Remote dual-panel control (DLC) (14,300W total)
- All network infrastructure on UPS/battery backup
- ~370kW max load

Physical Rack System:

- Custom laser-cut aluminum frame with stainless-steel decking
- 800 standard U-rings

Cooling System:

- Graywater circulated
- (3) 10,000 CFM direct-drive, single-phase exhaust fans (see attached)
- Temperature controlled/software automation, remote on/off

Air Filtration System:

- Option 1: Reclamation Model U2 (see attached)
- Option 2: Can filter bank slide/park (see attached)
- Intake-side adjustable pitch weather shield

Total Designed Heatrate:

- 372 min/hr @ 13.5 TH/s each
- 9.9 PH/s total

Network:

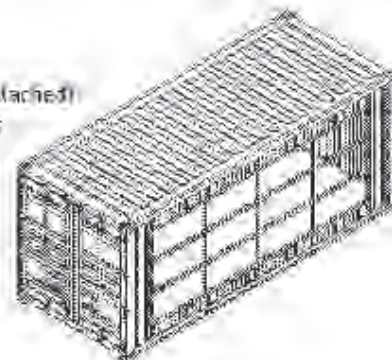
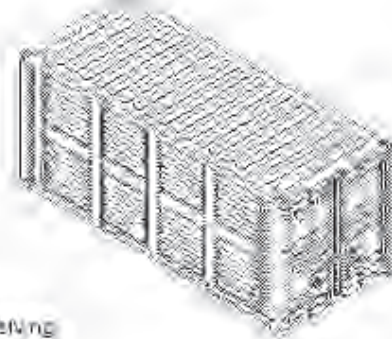
- Cat5e ethernet
- 18-port unmanaged sw (24x SFP, TP Link, or similar)
- On-site WAN or satellite (wired by third party)

Software Management:

- Local miner monitoring
- PostgreSQL database miner logging
- PPL/hashrate mapping (full automation)
- Operational-time breakeven monitoring (renewable marketplace data)
- V&M Final Audit (costs, return, and maintenance required)

Summary:

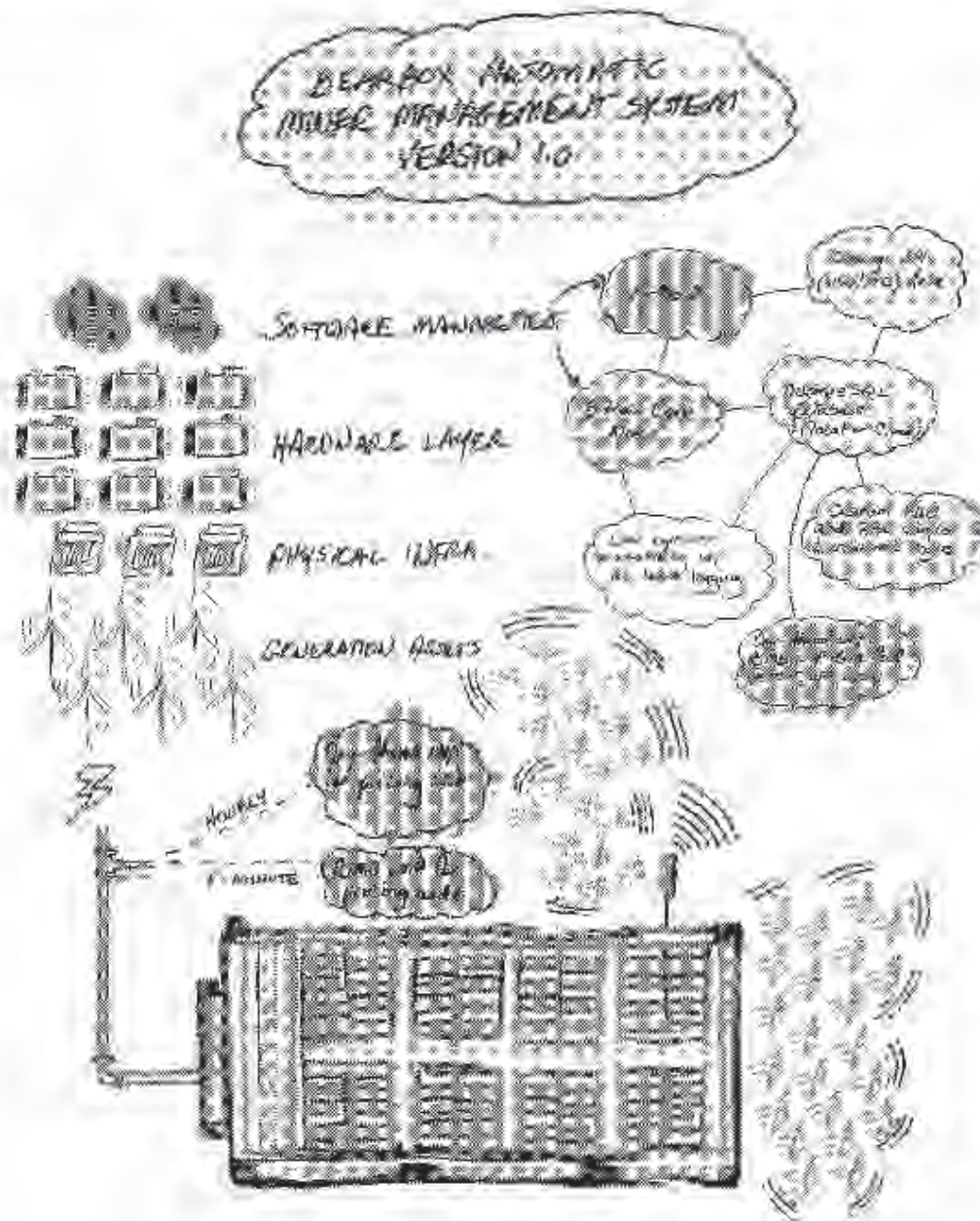
- BearBox V205: 13.9 PH/s @ ~370kW max load
- Does NOT include miners or external electrical infrastructure (transformer)
- Price: \$60,000 (\$1.51 (\$/W, 70k.33 kWh @ 9.2% fuel cost)





BearBox

Product details: BearBox V205 (Bitmain SS), Dragonmint T1, or similar) – cont.





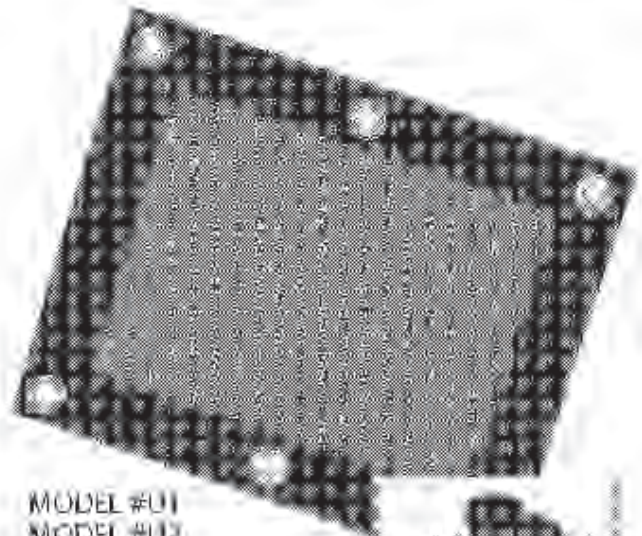
PreVent® Model U/BHA Flexible Frame Air Intake Filter

Acts as a primary pre-filtration defense to help prevent the damage and extensive maintenance that large volumes of dirt and debris can cause, Model U and BHA are custom designed and manufactured to fit any sized air intake.

Model U filter is constructed of washable three-dimensional electrostatic polypropylene media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model U1 contains one layer of media or Model U2 contains two layers of media depending on the application's environmental particle size.

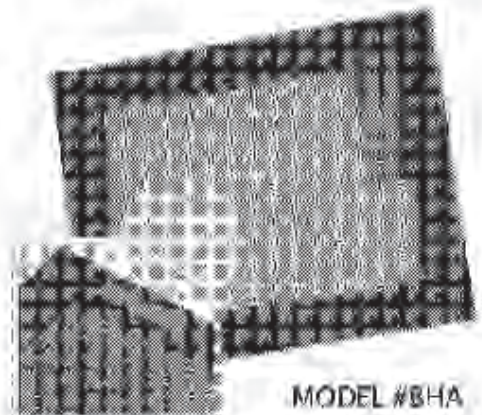
Model BHA filter is constructed of black PVC coated polyester high abrasion media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model BHA contains one layer of media.

- Can be affixed to unit with hook/loop stripping, grommets with mount clips, elastic bungee hooks or magnetic stripping
- Fits any equipment, specify size
- Sewn 2.5" vinyl edge (folded to 1-1/4") is standard for Flexible filters 0-2000 square inches
- Some welded edges also available as frame option
- UV protected black media
- U/L Classified as to Flammability Only
- 5 Year Warranty



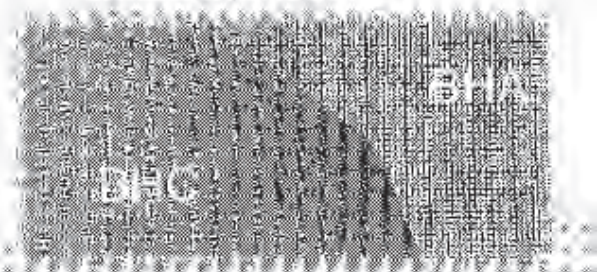
MODEL #U1
MODEL #U2

Plastic mount
clips available for
easy installation



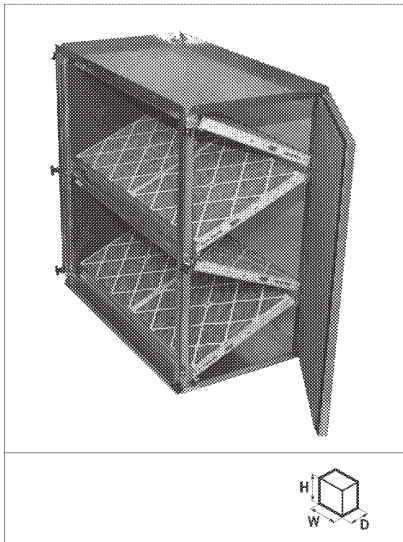
MODEL #BHA

Magnetic stripping inside vinyl edge
available for easy installation.



	0-1000 sq. in.	1001-2000 sq. in.	2001-3000 sq. in.
Avg. Arrestance Efficiency	42%	72%	N/A
Dust Holding Capacity	67 gm.	100 gm.	N/A
Initial Air Flow Resistance	0.02 w.g.	0.05 w.g.	0.02 w.g.

www.permatron.com
1-800-882-8012

Filter Frames & Housings**Housings (ASHRAE)****V-Bank Glide/Pack®****Advantages**

- V-bank design reduces filter velocity and filter pressure drop by up to 60%, saving energy
- Increases life of filters up to four times

Typical applications: Single-stage V-bank filter housing for commercial, industrial, manufacturing or medical facilities.

Construction: 16-gauge galvanized steel with pre-drilled standing flanges, dual access doors, UV-resistant door knobs, door and filter sealing gasketing.

Filters: Any 2" deep filter.

Performance: Less than 1/2 of 1% leakage guaranteed. Rated airflow 500 fpm, may be operated to 625 fpm. Standard model operational to $\pm 6.0'$ w.g.

Additional data: Sizes available from 4 filters high to 6 filters wide. Housing is weatherproof for outside installation without modification. Includes pneumatic fitting for static pressure gauge.

See Literature 2421 for more details.

Dimensions and Airflow Capacity (cfm)

Number of filters wide	Height (inches)	1/2 Filter wide	1 Filter wide	1 1/2 Filters wide	2 Filters wide	2 1/2 Filters wide	3 Filters wide	3 1/2 Filters wide	4 Filters wide	4 1/2 Filters wide	5 Filters wide	5 1/2 Filters wide	6 Filters wide	Housing depth (inches)
1/2	15.25	-	2,000	-	4,000	-	6,000	-	8,000	-	10,000	-	12,000	28.00
1	27.25	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	
1-1/2	39.50	-	6,000	-	12,000	-	18,000	-	24,000	-	30,000	-	36,000	
2	51.50	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	
2-1/2	63.75	-	10,000	-	20,000	-	30,000	-	40,000	-	50,000	-	60,000	
3	75.75	6,000	12,000	18,000	24,000	30,000	36,000	42,000	48,000	54,000	60,000	66,000	72,000	
3-1/2	88.00	-	14,000	-	28,000	-	42,000	-	54,000	-	70,000	-	84,000	
4	100.00	8,000	16,000	24,000	32,000	40,000	48,000	56,000	60,000	72,000	80,000	88,000	96,000	
Width (inches)		12	24	36	48	60	72	84	96	108	120	132	144	

As part of our program for continuous improvement, Camfil reserves the right to change specifications without notice. 2018-12-07

Conover NC, Corcoran CA, Crystal Lake IL, Riverdale NJ,
Washington NC, Concord Ontario
United States Tel: (866) 422-6345, Canada Tel: (800) 976-9382
www.camfil.com



Name: High Quality Print.joboptions
MIME Type: Plain Text

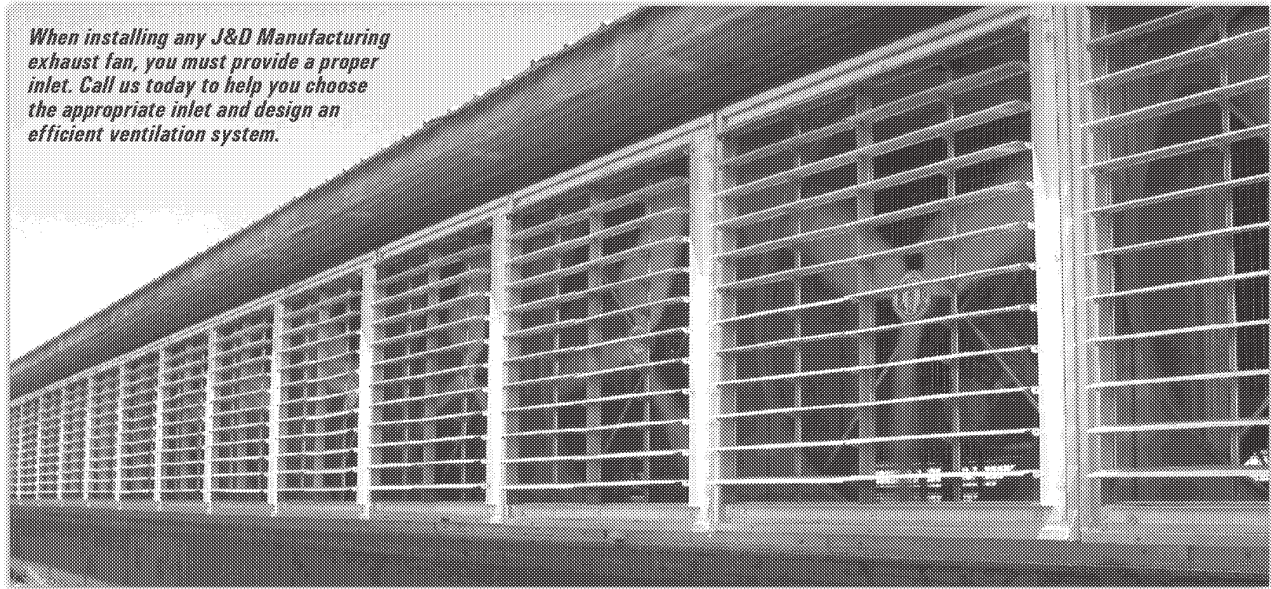
Character Set: US-ASCII
Name: High Quality Print.joboptions

Total System Solutions

Wall Master Exhaust Fan

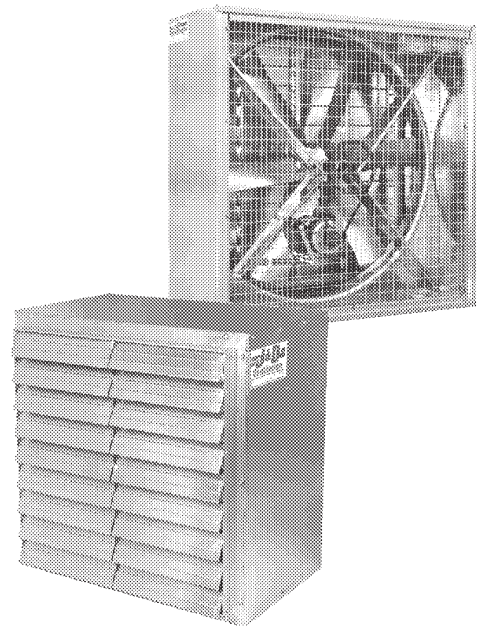
J&D Manufacturing's Wall Master exhaust fan offers high volume output and smooth, efficient operation. The heavy duty 18 gauge galvanized housing is strong, compact, and easy to install. J&D's Wall Master is a dependable fan suited for nearly any application including agricultural buildings, greenhouses, and warehouses.

When installing any J&D Manufacturing exhaust fan, you must provide a proper inlet. Call us today to help you choose the appropriate inlet and design an efficient ventilation system.



Features

- Available in 36" and 50" models
- Heavy duty 18 gauge galvanized housing
- Rugged X-frame for added stability on belt drive models
- Aluminum shutters with tie bar to prevent flapping and locking open
- 1" x 2" removable wire mesh guards are hot dip galvanized after welding
- Poly guard clips to reduce vibration for quiet performance
- 3, 4 or 6 blade galvanized propeller is balanced for smooth operation
- **Lifetime Warranty** on 3 blade cast aluminum props, available on select 50" models
- Bearings are eccentric locking, pre-lubricated, permanently sealed and rubber mounted for smooth operation and reduced blade fatigue, and are covered by a **Three Year Warranty**
- Spring belt tensioning system reduces bounce at startup on all belt driven models
- Optional weather hood available for protection from severe wind and weather
- Totally enclosed, maintenance-free, high-efficiency motors have completely sealed ball bearings, and are covered by a **Two Year Warranty**

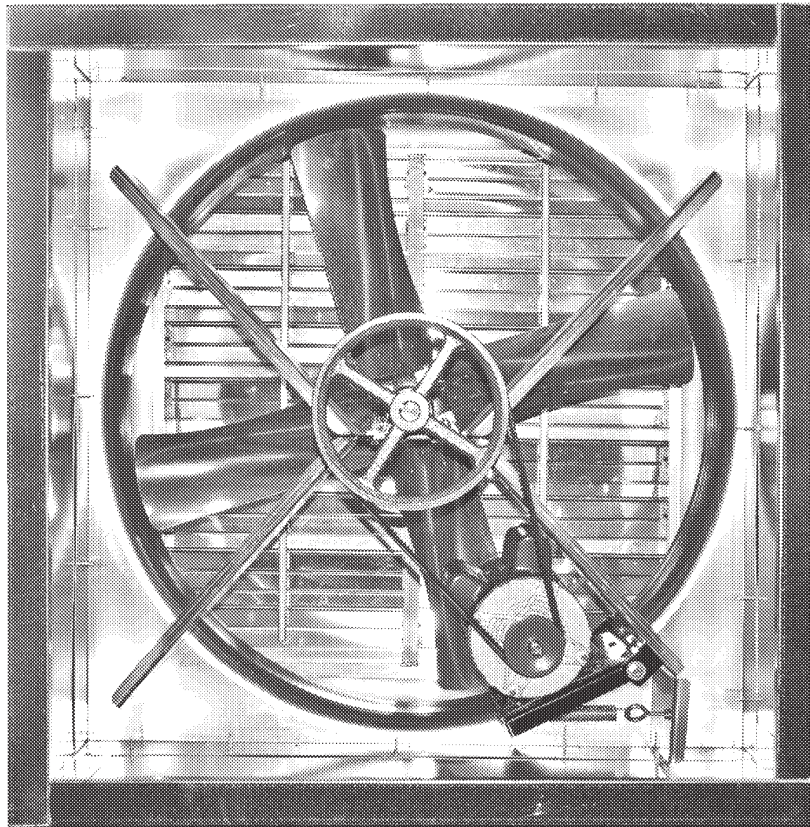


⚠WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

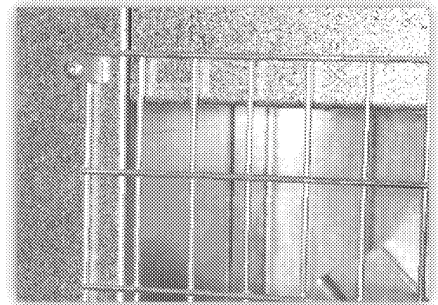
Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.



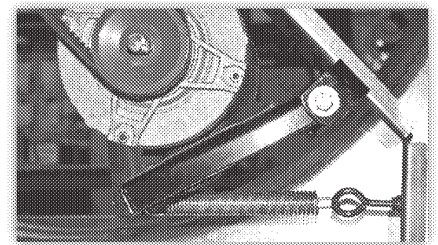
Wall Master Exhaust Fan



Heavy-duty X-frame - (Shown without rear guard for illustration purposes only)



Removable 12 Gauge 1" x 2" wire mesh guards are hot dip galvanized after welding. The guard is attached to the housing with poly guard clips to reduce noise and vibration.

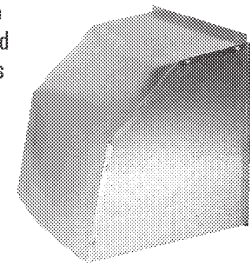


Belt drive models include a heavy duty spring belt tensioner to reduce bounce at startup and provide uniform loading to increase the life of the belt and maintain high efficiency.

Part#	Size	Phs	Spd	@0.05" SP		Drive	Prop
				CFM	Watt		
Single Phase							
VF36DM	36"	1	1	10,100	19.5	Direct	3-Glv
VF36GG	36"	1	1	9,000	18.1	Belt	4-Glv
VF36GG1	36"	1	1	11,500	15.2	Belt	4-Glv
VF36GG2	36"	1	2	11,400	15.3	Belt	4-Glv
VF50GG	50"	1	1	21,000	18.9	Belt	3-Glv
VF50GG6	50"	1	1	21,300	20.0	Belt	6-Glv
VF50GGCA	50"	1	1	20,900	18.8	Belt	3-CA
Three Phase							
VF36DM3CF	36"	3	1	10,000	19.6	Direct	3-Glv
VF36GG3	36"	3	1	11,400	15.1	Belt	4-Glv
VF503GG	50"	3	1	21,000	18.9	Belt	3-Glv
VF503GG6	50"	3	1	21,200	20.2	Belt	6-Glv
VF503GGCA	50"	3	1	20,900	18.8	Belt	3-CA
OSHA requires these fans to be mounted 7' above the floor							

Optional Weather Hood

If Wall Master is mounted with the shutter side of the fan flush to an exterior wall a weather hood may be used on the exterior shutter side of the Wall Master to further protect the fan and shutter from severe winds and harsh weather.



Fan Size	Rough Opening
36"	41"W x 41"H
50"	54 3/4"W x 54 3/4"H

Wall Master Fan Size	Weather Hood Part#
36"	VFT140860
50"	VFT140861

⚠WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

	A	B	C	D	E	F	G	H	I	J	K	L
	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
1	5698.24	574867	0.0883609	5/6/19 11:37	0.0292715	0.9056602	4.81358E+13	2.6928794	6.70217E+12	0.0283682	0.8777121	2.6928794
2	5704.01	574867	0.0884504	5/6/19 11:42	0.0292715	0.9056602	4.81358E+13	2.6956062	6.70217E+12	0.0256247	0.7928282	2.6956062
3	5721.16	574868	0.0878003	5/6/19 11:47	0.0292715	0.9056602	4.86381E+13	2.6757929	6.70217E+12	0.0266466	0.8244458	2.6757929
4	5712.77	574868	0.0876715	5/6/19 11:52	0.0292715	0.9056602	4.86381E+13	2.6718689	6.70217E+12	0.0294184	0.9102053	2.6718689
5	5702.98	574868	0.0875213	5/6/19 11:57	0.0292715	0.9056602	4.86381E+13	2.6672901	6.70217E+12	0.2156316	6.6716417	6.6716417
6	5711.53	574868	0.0876525	5/6/19 12:02	0.0319112	0.9873325	4.86381E+13	2.671289	6.70217E+12	0.4257598	13.1730082	13.1730082
7	5719.99	574868	0.0877823	5/6/19 12:08	0.0319112	0.9873325	4.86381E+13	2.6752457	6.70217E+12	0.2947237	9.1187513	9.1187513
8	5711.93	574869	0.0870193	5/6/19 12:13	0.0319112	0.9873325	4.89954E+13	2.6519913	6.70217E+12	0.1560219	4.8273176	4.8273176
9	5708.01	574871	0.0868646	5/6/19 12:18	0.0319112	0.9873325	4.9049E+13	2.6472769	6.70217E+12	0.0253548	0.7844775	2.6472769
10	5701.9	574871	0.0867716	5/6/19 12:23	0.0319112	0.9873325	4.9049E+13	2.6444432	6.70217E+12	0.027036	0.8364938	2.6444432
11	5698.51	574871	0.0867	5/6/19 12:28	0.0319112	0.9873325	4.9049E+13	2.642871	6.70217E+12	0.026636	0.8241178	2.642871
12	5705.99	574875	0.0875317	5/6/19 13:07	0.0316965	0.9806897	4.86579E+13	2.6676082	6.70217E+12	0.0297482	0.9204093	2.6676082
13	5706.72	574875	0.0875429	5/6/19 13:11	0.0316965	0.9806897	4.86579E+13	2.6679495	6.70217E+12	0.0283545	0.8772882	2.6679495
14	5702.01	574875	0.0874707	5/6/19 13:16	0.0316965	0.9806897	4.86579E+13	2.6657475	6.70217E+12	0.0263671	0.8157981	2.6657475
15	5703.44	574876	0.0881359	5/6/19 13:21	0.0316965	0.9806897	4.83028E+13	2.6860221	6.70217E+12	0.027458	0.8495505	2.6860221
16	5705.99	574876	0.0881753	5/6/19 13:26	0.0316965	0.9806897	4.83028E+13	2.687223	6.70217E+12	0.0295297	0.9136489	2.687223
17	5706.85	574876	0.0881886	5/6/19 13:31	0.0316965	0.9806897	4.83028E+13	2.687628	6.70217E+12	0.029437	0.9107808	2.687628
18	5726.52	574876	0.0884926	5/6/19 13:36	0.0316965	0.9806897	4.83028E+13	2.6968915	6.70217E+12	0.0294468	0.911084	2.6968915
19	5727.41	574876	0.0885064	5/6/19 13:41	0.0316965	0.9806897	4.83028E+13	2.6973107	6.70217E+12	0.0291977	0.9033768	2.6973107
20	5742.95	574876	0.0887465	5/6/19 13:46	0.0316965	0.9806897	4.83028E+13	2.7046292	6.70217E+12	0.0461903	1.4291279	2.7046292
21	5734.03	574876	0.0886086	5/6/19 13:51	0.0316965	0.9806897	4.83028E+13	2.7004284	6.70217E+12	0.0300478	0.9296789	2.7004284
22	5731.45	574876	0.0885688	5/6/19 13:56	0.0316965	0.9806897	4.83028E+13	2.6992133	6.70217E+12	0.0233358	0.7226965	2.6992133
23	5739.99	574877	0.0901743	5/6/19 14:01	0.0292446	0.9048279	4.75135E+13	2.7481417	6.70217E+12	0.0252541	0.7813619	2.7481417
24	5749.1	574877	0.0903174	5/6/19 14:06	0.0292446	0.9048279	4.75135E+13	2.7525033	6.70217E+12	0.022385	0.6925919	2.7525033
25	5732.99	574877	0.0900643	5/6/19 14:11	0.0292446	0.9048279	4.75135E+13	2.7447903	6.70217E+12	0.0278815	0.8626536	2.7447903
26	5722.65	574878	0.0904991	5/6/19 14:16	0.0292446	0.9048279	4.71999E+13	2.7580402	6.70217E+12	0.0276273	0.8547887	2.7580402
27	5719.43	574878	0.0904482	5/6/19 14:21	0.0292446	0.9048279	4.71999E+13	2.7564901	6.70217E+12	0.0401146	1.2411457	2.7564901
28	5727.52	574878	0.0905761	5/6/19 14:26	0.0292446	0.9048279	4.71999E+13	2.7603892	6.70217E+12	0.0357633	1.1065165	2.7603892
29	5719.12	574878	0.0904433	5/6/19 14:31	0.0292446	0.9048279	4.71999E+13	2.7563408	6.70217E+12	0.0216376	0.6694673	2.7563408
30	5720.06	574880	0.0904384	5/6/19 14:37	0.0292446	0.9048279	4.72102E+13	2.7561911	6.70217E+12	0.0206897	0.6401393	2.7561911
31	5730.64	574880	0.0906057	5/6/19 14:42	0.0292446	0.9048279	4.72102E+13	2.7612891	6.70217E+12	0.0212322	0.6569243	2.7612891
32	5734.69	574880	0.0906697	5/6/19 14:47	0.0292446	0.9048279	4.72102E+13	2.7632406	6.70217E+12	0.0214839	0.6647119	2.7632406
33	5739.31	574881	0.090775	5/6/19 14:52	0.0292446	0.9048279	4.71935E+13	2.7664494	6.70217E+12	0.0212921	0.6587776	2.7664494
34	5736.72	574882	0.0910352	5/6/19 14:57	0.0292446	0.9048279	4.70373E+13	2.7743811	6.70217E+12	0.020696	0.6403342	2.7743811
35	5741.99	574883	0.0905084	5/6/19 15:02	0.0212846	0.6585455	4.73545E+13	2.7583257	6.70217E+12	0.0203623	0.6300096	2.7583257
36	5733.24	574885	0.0890821	5/6/19 15:07	0.0212846	0.6585455	4.80395E+13	2.7148565	6.70217E+12	0.0198016	0.6126615	2.7148565
37	5724.73	574886	0.0885552	5/6/19 15:12	0.0212846	0.6585455	4.82535E+13	2.6988006	6.70217E+12	0.0190006	0.5878786	2.6988006
38	5709.73	574886	0.0883232	5/6/19 15:17	0.0212846	0.6585455	4.82535E+13	2.6917292	6.70217E+12	0.0184907	0.5721023	2.6917292
39	5678.11	574887	0.088385	5/6/19 15:22	0.0212846	0.6585455	4.79528E+13	2.6936119	6.70217E+12	0.021336	0.7158278	2.6936119
40	5683.95	574887	0.08835678	5/6/19 15:27	0.0212846	0.6585455	5.17781E+13	2.5468044	6.70217E+12	0.025128	0.7774603	2.5468044
41	5700.28	574894	0.0821747	5/6/19 15:32	0.0212846	0.6585455	5.17781E+13	2.5043487	6.70217E+12	0.0141482	0.4377453	2.4971743
42	5681.84	574895	0.0825354	5/6/19 15:37	0.0212846	0.6585455	5.15494E+13	2.515341	6.70217E+12	0.0158794	0.4913086	2.5043487
43	5697.16	574891	0.083495	5/6/19 15:42	0.0212846	0.8726101	5.16041E+13	2.5113225	6.70217E+12	0.0142467	0.4407929	2.515341
44	5684.36	574892	0.0835678	5/6/19 15:47	0.0212846	0.8726101	5.16041E+13	2.5133225	6.70217E+12	0.0193804	0.5996296	2.5113225
45	5683.95	574894	0.0821747	5/6/19 15:52	0.0212846	0.8726101	5.16041E+13	2.5130065	6.70217E+12	0.0145181	0.44919	2.5130065
46	5700.28	574895	0.0825354	5/6/19 15:57	0.0212846	0.8726101	5.16041E+13	2.508582	6.70217E+12	0.0157287	0.486646	2.508582
47	5681.84	574891	0.083495	5/6/19 16:02	0.0212846	0.8726101	5.16041E+13	2.508582	6.70217E+12	0.0162324	0.5022305	2.508582
48	5696.94	574897	0.0824036	5/6/19 16:07	0.0282033	0.8726101	5.16041E+13	2.508582	6.70217E+12	0.0157041	0.4858849	2.5048513
49	5700.76	574897	0.0824588	5/6/19 16:12	0.0282033	0.8726101	5.16041E+13	2.508582	6.70217E+12	0.0157041	0.4858849	2.5048513
50	5684.53	574897	0.0822241	5/6/19 16:17	0.0282033	0.8726101	5.16041E+13	2.508582	6.70217E+12	0.0157041	0.4858849	2.5048513
51	5689.74	574897	0.0822994	5/6/19 16:22	0.0282033	0.8726101	5.16041E+13	2.508582	6.70217E+12	0.0157041	0.4858849	2.5048513
52	5682.26	574897	0.0821912	5/6/19 16:27	0.0282033	0.8726101	5.16041E+13	2.508582	6.70217E+12	0.0157041	0.4858849	2.5048513

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
53	5686.59	574898	0.0828228	5/6/19 16:28	0.0282033	0.8726101	5.12496E+13	2.5240987	6.70217E+12	0.0148626	0.4598488	2.5240987
54	5681.45	574899	0.0829971	5/6/19 16:33	0.0282033	0.8726101	5.10957E+13	2.5294123	6.70217E+12	0.0141661	0.4382291	2.5294123
55	5684.86	574899	0.0830469	5/6/19 16:38	0.0282033	0.8726101	5.10957E+13	2.5309305	6.70217E+12	0.0039202	0.121291	2.5309305
56	5679.5	574899	0.0829686	5/6/19 16:43	0.0282033	0.8726101	5.10957E+13	2.5285442	6.70217E+12	0.0059038	0.1826636	2.5285442
57	5681.53	574901	0.0836257	5/6/19 16:48	0.0282033	0.8726101	5.07124E+13	2.5485671	6.70217E+12	0.0056964	0.1762466	2.5485671
58	5689.99	574902	0.0837969	5/6/19 16:53	0.0282033	0.8726101	5.06841E+13	2.5537859	6.70217E+12	0.0098804	0.3056996	2.5537859
59	5691.01	574903	0.0831196	5/6/19 16:58	0.0282033	0.8726101	5.11063E+13	2.5331438	6.70217E+12	0.0072672	0.2248472	2.5331438
60	5693.02	574904	0.0827156	5/6/19 17:03	0.0245371	0.7591779	5.14281E+13	2.5208339	6.70217E+12	0.0100674	0.3114854	2.5208339
61	5700.57	574905	0.0827554	5/6/19 17:08	0.0245371	0.7591779	5.14174E+13	2.5220451	6.70217E+12	0.0086099	0.2663903	2.5220451
62	5695.51	574906	0.0812506	5/6/19 17:13	0.0245371	0.7591779	5.23232E+13	2.4761856	6.70217E+12	0.0053846	0.1665995	2.4761856
63	5694.8	574907	0.0809439	5/6/19 17:18	0.0245371	0.7591779	5.25149E+13	2.4668388	6.70217E+12	0.0017196	0.0532044	2.4668388
64	5695.29	574907	0.0809509	5/6/19 17:23	0.0245371	0.7591779	5.25149E+13	2.467051	6.70217E+12	0.0048459	0.1499321	2.467051
65	5711.94	574907	0.0811875	5/6/19 17:28	0.0245371	0.7591779	5.25149E+13	2.4742634	6.70217E+12	0.0072046	0.2229103	2.4742634
66	5717.52	574908	0.0815164	5/6/19 17:33	0.0245371	0.7591779	5.23541E+13	2.4842862	6.70217E+12	0.0173188	0.5358437	2.4842862
67	5717.19	574908	0.0815117	5/6/19 17:38	0.0245371	0.7591779	5.23541E+13	2.4841428	6.70217E+12	0.0107967	0.3340499	2.4841428
68	5709.94	574908	0.0814083	5/6/19 17:43	0.0245371	0.7591779	5.23541E+13	2.4809927	6.70217E+12	0.0175668	0.5435168	2.4809927
69	5706.05	574908	0.0813529	5/6/19 17:48	0.0245371	0.7591779	5.23541E+13	2.4793025	6.70217E+12	0.0040943	0.1266776	2.4793025
70	5698.01	574909	0.0821371	5/6/19 17:53	0.0245371	0.7591779	5.17812E+13	2.5032013	6.70217E+12	0.0062052	0.1919889	2.5032013
71	5704.79	574909	0.0822348	5/6/19 17:59	0.0245371	0.7591779	5.17812E+13	2.5061798	6.70217E+12	0.0060673	0.1877223	2.5061798
72	5706.81	574909	0.0822639	5/6/19 18:04	0.0188872	0.58437	5.17812E+13	2.5070672	6.70217E+12	0.004964	0.1535862	2.5070672
73	5699.44	574910	0.0819668	5/6/19 18:09	0.0188872	0.58437	5.19018E+13	2.4980119	6.70217E+12	0.0096617	0.2989033	2.4980119
74	5697.53	574910	0.0819393	5/6/19 18:14	0.0188872	0.58437	5.19018E+13	2.4971748	6.70217E+12	0.0094749	0.2931534	2.4971748
75	5693.01	574910	0.0818743	5/6/19 18:19	0.0188872	0.58437	5.19018E+13	2.4951937	6.70217E+12	0.0097717	0.3023364	2.4951937
76	5693.01	574910	0.0818743	5/6/19 18:24	0.0188872	0.58437	5.19018E+13	2.4951937	6.70217E+12	0.0113155	0.3501016	2.4951937
77	5693.97	574911	0.0828462	5/6/19 18:29	0.0188872	0.58437	5.13013E+13	2.5248113	6.70217E+12	-0.0060949	-0.1885762	2.5248113
78	5699.59	574911	0.0829281	5/6/19 18:34	0.0188872	0.58437	5.13013E+13	2.5273078	6.70217E+12	0.0003233	0.0100029	2.5273078
79	5698.15	574912	0.0833531	5/6/19 18:39	0.0188872	0.58437	5.1027E+13	2.540262	6.70217E+12	0.0028852	0.0892681	2.540262
80	5693.81	574913	0.0834471	5/6/19 18:44	0.0188872	0.58437	5.09307E+13	2.5431267	6.70217E+12	0.0066411	0.2054756	2.5431267
81	5686.01	574914	0.0818977	5/6/19 18:49	0.0188872	0.58437	5.18232E+13	2.4959076	6.70217E+12	0.0059357	0.1836506	2.4959076
82	5685.94	574915	0.0814507	5/6/19 18:54	0.0188872	0.58437	5.21069E+13	2.4822846	6.70217E+12	-0.0011344	-0.00350983	2.4822846
83	5683.4	574915	0.0814144	5/6/19 18:59	0.0188872	0.58437	5.21069E+13	2.4811757	6.70217E+12	0.0001905	0.0058941	2.4811757
84	5694.85	574915	0.0815784	5/6/19 19:04	0.0193163	0.5976463	5.21069E+13	2.4861744	6.70217E+12	0.0002833	0.0087653	2.4861744
85	5721.14	574915	0.081955	5/6/19 19:09	0.0193163	0.5976463	5.21069E+13	2.4976517	6.70217E+12	0.0025406	0.0786062	2.4976517
86	5732.53	574915	0.0821181	5/6/19 19:14	0.0193163	0.5976463	5.21069E+13	2.5026242	6.70217E+12	0.0016449	0.0508932	2.5026242
87	5732.74	574915	0.0821211	5/6/19 19:19	0.0193163	0.5976463	5.21069E+13	2.5027159	6.70217E+12	0.0041178	0.1274047	2.5027159
88	5730.2	574915	0.0820848	5/6/19 19:24	0.0193163	0.5976463	5.21069E+13	2.501607	6.70217E+12	-0.000019	-0.0005879	2.501607
89	5737.27	574915	0.082186	5/6/19 19:29	0.0193163	0.5976463	5.21069E+13	2.5046935	6.70217E+12	-0.0002028	-0.0062746	2.5046935
90	5731.74	574915	0.0821068	5/6/19 19:34	0.0193163	0.5976463	5.21069E+13	2.5022793	6.70217E+12	0.0002309	0.007144	2.5022793
91	5727.94	574915	0.0820524	5/6/19 19:40	0.0193163	0.5976463	5.21069E+13	2.5066204	6.70217E+12	0.0130869	0.4049087	2.5066204
92	5741.23	574915	0.0822428	5/6/19 19:45	0.0193163	0.5976463	5.21069E+13	2.5064223	6.70217E+12	0.0122933	0.3803547	2.5064223
93	5740.52	574915	0.0822326	5/6/19 19:50	0.0193163	0.5976463	5.21069E+13	2.5061123	6.70217E+12	0.0089193	0.2759631	2.5061123
94	5749.19	574916	0.08668	5/6/19 19:55	0.0193163	0.5976463	4.9508E+13	2.6416525	6.70217E+12	0.0021355	0.0660724	2.6416525
95	5745.01	574916	0.086617	5/6/19 20:00	0.0241251	0.7464306	4.9508E+13	2.6397319	6.70217E+12	-0.001813	-0.0560942	2.6397319
96	5763.99	574916	0.0869032	5/6/19 20:05	0.0241251	0.7464306	4.9508E+13	2.6484528	6.70217E+12	-0.0003708	-0.0114726	2.6484528
97	5769.68	574916	0.086989	5/6/19 20:10	0.0241251	0.7464306	4.9508E+13	2.6510673	6.70217E+12	0.0062241	0.1925737	2.6510673
98	5769.14	574917	0.0882187	5/6/19 20:15	0.0241251	0.7464306	4.88133E+13	2.6885453	6.70217E+12	0.0116013	0.3589442	2.6885453
99	5755.39	574917	0.0880085	5/6/19 20:20	0.0241251	0.7464306	4.88133E+13	2.6821375	6.70217E+12	0.0009813	0.0303614	2.6821375
100	5754.1	574917	0.0879887	5/6/19 20:25	0.0241251	0.7464306	4.88133E+13	2.6815363	6.70217E+12	-0.016407	-0.4993933	2.6815363
101	5771.1	574917	0.0882487	5/6/19 20:30	0.0241251	0.7464306	4.88133E+13	2.6894587	6.70217E+12	-0.017408	-0.5405466	2.6894587
102	5764.05	574918	0.0890788	5/6/19 20:35	0.0241251	0.7464306	4.82994E+13	2.714756	6.70217E+12	-0.0175085	-0.541713	2.714756
103	5752.2	574918	0.0888956	5/6/19 20:40	0.0241251	0.7464306	4.82994E+13	2.7091749	6.70217E+12	-0.0038463	-0.1190045	2.7091749

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
104	5755.49	574918	0.0889465	5/6/19 20:45	0.0241251	0.7464306	4.82994E+13	2.7107244	6.70217E+12	-0.0004318	-0.0133599	2.7107244
105	5762.02	574919	0.0902091	5/6/19 20:50	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	0.0004104	0.0126978	2.7492027
106	5760.7	574919	0.0901884	5/6/19 20:55	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	-0.0009508	-0.0294178	2.7485729
107	5762.49	574920	0.0902164	5/6/19 21:02	0.0175071	0.5416697	4.76774E+13	2.749427	6.70217E+12	0.0007073	0.0218839	2.749427
108	5774.99	574920	0.1001885	5/6/19 21:19	0.0175071	0.5242793	4.74463E+13	2.9553058	6.70217E+12	-0.0013119	-0.039287	2.9553058
109	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
110	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
111	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
112	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
113	5843.89	574923	0.1041911	5/6/19 21:52	0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
114	5889.14	574923	0.1049979	5/6/19 21:57	0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
115	5938.96	574925	0.1060149	5/6/19 22:02	0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
116	5924.06	574925	0.105749	5/6/19 22:07	0.0137884	0.4129166	4.61118E+13	3.1193265	6.70217E+12	-0.0183554	-0.549683	3.1193265
117	5904.4	574925	0.105398	5/6/19 22:15	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
118	5904.4	574925	0.105398	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
119	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
120	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
121	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
122	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
123	5900.68	574927	0.1057464	5/6/19 22:23	0.0137884	0.4129166	4.59309E+13	3.119251	6.70217E+12	0.0035913	0.1075475	3.119251
124	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
125	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
126	5898.4	574930	0.1031447	5/6/19 22:35	0.0137884	0.4129166	4.70713E+13	3.0425064	6.70217E+12	-0.0289922	-0.8682197	3.0425064
127	5893.05	574930	0.1030511	5/6/19 22:37	0.0137884	0.4129166	4.70713E+13	3.0397468	6.70217E+12	-0.0289922	-0.8682197	3.0397468
128	5897.36	574930	0.1031265	5/6/19 22:42	0.0137884	0.4129166	4.70713E+13	3.04197	6.70217E+12	-0.0236925	-0.7095114	3.04197
129	5899.22	574931	0.1032757	5/6/19 22:47	0.0137884	0.4129166	4.70181E+13	3.046371	6.70217E+12	-0.0155618	-0.466024	3.046371
130	5901.5	574931	0.1033156	5/6/19 22:52	0.0137884	0.4129166	4.70181E+13	3.0475484	6.70217E+12	-0.0215767	-0.6461502	3.0475484
131	5895.01	574932	0.1028817	5/6/19 22:57	0.0137884	0.4129166	4.71645E+13	3.0347496	6.70217E+12	-0.0188905	-0.5657075	3.0347496
132	5882.85	574943	0.1003326	5/7/19 0:02	0.0098383	0.2946243	4.8263E+13	2.9595589	6.70217E+12	-0.002652	-0.0794186	2.9595589
133	5891.99	574943	0.1004885	5/7/19 0:07	0.0098383	0.2946243	4.8263E+13	2.9641571	6.70217E+12	0.0003922	0.0117451	2.9641571
134	5896.7	574944	0.1020246	5/7/19 0:12	0.0098383	0.2946243	4.75743E+13	3.0094662	6.70217E+12	0.0109642	0.3283412	3.0094662
135	5903.84	574944	0.1021481	5/7/19 0:17	0.0098383	0.2946243	4.75743E+13	3.0131102	6.70217E+12	0.0001877	0.005621	3.0131102
136	5911.06	574944	0.102273	5/7/19 0:22	0.0098383	0.2946243	4.75743E+13	3.0167951	6.70217E+12	-0.0190565	-0.5706787	3.0167951
137	5885.39	574945	0.1028414	5/7/19 0:27	0.0098383	0.2946243	4.71059E+13	3.0335618	6.70217E+12	-0.005721	-0.1713249	3.0335618
138	5895.99	574945	0.1030267	5/7/19 0:32	0.0098383	0.2946243	4.71059E+13	3.0390254	6.70217E+12	0.005387	0.1613227	3.0390254
139	5897.07	574945	0.1030455	5/7/19 0:37	0.0098383	0.2946243	4.71059E+13	3.0395821	6.70217E+12	0.0090961	0.2723979	3.0395821
140	5898.51	574945	0.1030707	5/7/19 0:42	0.0098383	0.2946243	4.71059E+13	3.0403243	6.70217E+12	0.0000416	0.0012458	3.0403243
141	5901.99	574945	0.1031315	5/7/19 0:47	0.0098383	0.2946243	4.71059E+13	3.0421181	6.70217E+12	0.0002217	0.0066392	3.0421181
142	5889.59	574946	0.1043197	5/7/19 0:52	0.0098383	0.2946243	4.64716E+13	3.0771656	6.70217E+12	-0.0026672	-0.0798737	3.0771656
143	5889.01	574947	0.1040736	5/7/19 0:57	0.0098383	0.2946243	4.65768E+13	3.0699085	6.70217E+12	-0.0003307	-0.0099034	3.0699085
144	5877.69	574947	0.1038736	5/7/19 1:02	0.0105202	0.3150449	4.65768E+13	3.0640074	6.70217E+12	-0.0003011	-0.0090169	3.0640074
145	5889.43	574948	0.1042298	5/7/19 1:07	0.0105202	0.3150449	4.65104E+13	3.0745154	6.70217E+12	-0.0001362	-0.0040787	3.0745154
146	5887.99	574948	0.1042043	5/7/19 1:12	0.0105202	0.3150449	4.65104E+13	3.0737637	6.70217E+12	0.0091898	0.2752039	3.0737637
147	5867.4	574948	0.1038399	5/7/19 1:17	0.0105202	0.3150449	4.65104E+13	3.0630149	6.70217E+12	0.0091883	0.275159	3.0630149
148	5883.85	574950	0.1044213	5/7/19 1:22	0.0105202	0.3150449	4.63811E+13	3.0801634	6.70217E+12	0.0098517	0.2950256	3.0801634
149	5871.24	574950	0.1041975	5/7/19 1:27	0.0105202	0.3150449	4.63811E+13	3.0735621	6.70217E+12	0.0110652	0.3313659	3.0735621
150	5870.35	574950	0.1041817	5/7/19 1:32	0.0105202	0.3150449	4.63811E+13	3.0730962	6.70217E+12	0.0117356	0.3514421	3.0730962
151	5880.51	574950	0.104362	5/7/19 1:37	0.0105202	0.3150449	4.63811E+13	3.0784149	6.70217E+12	0.0114298	0.3422844	3.0784149
152	5887.56	574951	0.1056193	5/7/19 1:42	0.0105202	0.3150449	4.58839E+13	3.1155019	6.70217E+12	0.0158031	0.4732502	3.1155019
153	5888.94	574951	0.1056441	5/7/19 1:47	0.0105202	0.3150449	4.58839E+13	3.1162321	6.70217E+12	0.0139082	0.4165042	3.1162321
154	5890.07	574951	0.1056643	5/7/19 1:52	0.0105202	0.3150449	4.58839E+13	3.1168301	6.70217E+12	0.0141407	0.4234668	3.1168301

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
155	5887.93	574952	0.1061226	5/7/19 1:57	0.0105202	0.3150449	4.56692E+13	3.1303483	6.70217E+12	0.0129154	0.3867732	3.1303483
156	5887.77	574953	0.1056897	5/7/19 2:02	0.011378	0.3407332	4.57927E+13	3.117579	6.70217E+12	0.0142018	0.4252966	3.117579
157	5880.52	574954	0.1043159	5/7/19 2:07	0.011378	0.3407332	4.6017E+13	3.0770561	6.70217E+12	0.0139436	0.4175643	3.0770561
158	5875.01	574954	0.1042182	5/7/19 2:12	0.011378	0.3407332	4.64017E+13	3.074173	6.70217E+12	0.0105143	0.3148682	3.074173
159	5873.6	574954	0.1041932	5/7/19 2:17	0.011378	0.3407332	4.64017E+13	3.0734352	6.70217E+12	0.0094361	0.2825797	3.0734352
160	5871.85	574955	0.1044686	5/7/19 2:22	0.011378	0.3407332	4.62656E+13	3.0815582	6.70217E+12	0.0088951	0.2663786	3.0815582
161	5871.01	574956	0.103617	5/7/19 2:27	0.011378	0.3407332	4.66391E+13	3.0564397	6.70217E+12	0.0093072	0.2787196	3.0564397
162	5859.85	574956	0.1034201	5/7/19 2:32	0.011378	0.3407332	4.66391E+13	3.0506298	6.70217E+12	0.0120542	0.3609831	3.0506298
163	5865.94	574956	0.1035275	5/7/19 2:37	0.011378	0.3407332	4.66391E+13	3.0538003	6.70217E+12	0.0128926	0.3860904	3.0538003
164	5869.1	574956	0.1035833	5/7/19 2:42	0.011378	0.3407332	4.66391E+13	3.0554454	6.70217E+12	0.0141064	0.4224397	3.0554454
165	5877.6	574956	0.1037333	5/7/19 2:47	0.011378	0.3407332	4.66391E+13	3.0598705	6.70217E+12	0.0141304	0.4231584	3.0598705
166	5877.18	574957	0.1057538	5/7/19 2:52	0.011378	0.3407332	4.57448E+13	3.1194692	6.70217E+12	0.0141067	0.4224486	3.1194692
167	5885.01	574958	0.1054291	5/7/19 2:57	0.011378	0.3407332	4.59468E+13	3.1098919	6.70217E+12	0.0188926	0.5657704	3.1098919
168	5882.93	574959	0.1056834	5/7/19 3:02	0.0110606	0.3312281	4.582E+13	3.1173937	6.70217E+12	0.0159616	0.4779967	3.1173937
169	5880.11	574959	0.1056328	5/7/19 3:07	0.0110606	0.3312281	4.582E+13	3.1158994	6.70217E+12	0.0162983	0.4880798	3.1158994
170	5876.76	574959	0.1055726	5/7/19 3:12	0.0110606	0.3312281	4.582E+13	3.1141242	6.70217E+12	0.0123771	0.3706529	3.1141242
171	5875.44	574959	0.1055489	5/7/19 3:17	0.0110606	0.3312281	4.582E+13	3.1134247	6.70217E+12	0.0104838	0.3139549	3.1134247
172	5868.65	574959	0.1054269	5/7/19 3:22	0.0110606	0.3312281	4.582E+13	3.1098266	6.70217E+12	0.0135372	0.405394	3.1098266
173	5871.6	574959	0.1054799	5/7/19 3:27	0.0110606	0.3312281	4.582E+13	3.1113899	6.70217E+12	0.0142273	0.4260602	3.1113899
174	5871.6	574959	0.1054799	5/7/19 3:32	0.0110606	0.3312281	4.582E+13	3.1113899	6.70217E+12	0.0143862	0.4308187	3.1113899
175	5877.57	574959	0.1055871	5/7/19 3:37	0.0110606	0.3312281	4.582E+13	3.1145334	6.70217E+12	0.0142716	0.4273868	3.1145334
176	5876.48	574959	0.1055676	5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1139758	6.70217E+12	0.0142134	0.425644	3.1139758
177	5868.98	574960	0.109055	5/7/19 3:47	0.0110606	0.3312281	4.42981E+13	3.2168461	6.70217E+12	0.0124885	0.3739889	3.2168461
178	5865.34	574960	0.1089874	5/7/19 3:52	0.0110606	0.3312281	4.42981E+13	3.2148509	6.70217E+12	0.0128153	0.3837755	3.2148509
179	5869.73	574961	0.1097753	5/7/19 3:57	0.0110606	0.3312281	4.40131E+13	3.2380924	6.70217E+12	0.0125425	0.3756061	3.2380924
180	5876.57	574962	0.1082718	5/7/19 4:02	0.0132424	0.3965657	4.46763E+13	3.1937442	6.70217E+12	0.012019	0.359929	3.1937442
181	5864.77	574962	0.1080544	5/7/19 4:07	0.0132424	0.3965657	4.46763E+13	3.1873313	6.70217E+12	0.0116681	0.3494207	3.1873313
182	5870.49	574963	0.1086102	5/7/19 4:12	0.0132424	0.3965657	4.4491E+13	3.2037267	6.70217E+12	0.012883	0.3858029	3.2037267
183	5892.85	574964	0.1086378	5/7/19 4:17	0.0132424	0.3965657	4.46491E+13	3.2045387	6.70217E+12	0.0113387	0.3395563	3.2045387
184	5893.36	574964	0.1086472	5/7/19 4:22	0.0132424	0.3965657	4.46491E+13	3.204816	6.70217E+12	0.0115719	0.3465398	3.204816
185	5890.81	574964	0.1086002	5/7/19 4:27	0.0132424	0.3965657	4.46491E+13	3.2034293	6.70217E+12	0.0118547	0.3550087	3.2034293
186	5894.23	574965	0.1080396	5/7/19 4:32	0.0132424	0.3965657	4.49069E+13	3.1868941	6.70217E+12	0.0122344	0.3663795	3.1868941
187	5898.56	574965	0.108119	5/7/19 4:37	0.0132424	0.3965657	4.49069E+13	3.1892353	6.70217E+12	0.0138738	0.4154741	3.1892353
188	5908.64	574965	0.1083037	5/7/19 4:42	0.0132424	0.3965657	4.49069E+13	3.1946853	6.70217E+12	0.014388	0.4308726	3.1946853
189	5915.11	574965	0.1084223	5/7/19 4:47	0.0132424	0.3965657	4.49069E+13	3.1981835	6.70217E+12	0.0166224	0.4977855	3.1981835
190	5909.7	574965	0.1083231	5/7/19 4:52	0.0132424	0.3965657	4.49069E+13	3.1952584	6.70217E+12	0.0144629	0.4331156	3.1952584
191	5906.81	574966	0.1085559	5/7/19 4:57	0.0132424	0.3965657	4.47887E+13	3.2021242	6.70217E+12	0.014704	0.4403358	3.2021242
192	5914.74	574966	0.1087016	5/7/19 5:02	0.0163996	0.4911134	4.47887E+13	3.2064231	6.70217E+12	0.0082133	0.245961	3.2064231
193	5917.1	574967	0.109481	5/7/19 5:07	0.0163996	0.4911134	4.44875E+13	3.2294129	6.70217E+12	0.0137796	0.4126531	3.2294129
194	5912.39	574967	0.1093939	5/7/19 5:12	0.0163996	0.4911134	4.44875E+13	3.2268423	6.70217E+12	0.0156701	0.4692673	3.2268423
195	5894.35	574968	0.1094478	5/7/19 5:17	0.0163996	0.4911134	4.433E+13	3.2284315	6.70217E+12	0.0146488	0.4386827	3.2284315
196	5898.35	574968	0.109522	5/7/19 5:22	0.0163996	0.4911134	4.433E+13	3.2306223	6.70217E+12	0.0145908	0.4369458	3.2306223
197	5902.16	574969	0.1079698	5/7/19 5:27	0.0163996	0.4911134	4.49963E+13	3.1848344	6.70217E+12	0.0155564	0.4658623	3.1848344
198	5900.85	574969	0.1079458	5/7/19 5:32	0.0163996	0.4911134	4.49963E+13	3.1841275	6.70217E+12	0.0134736	0.4034894	3.1841275
199	5900.34	574969	0.1079365	5/7/19 5:37	0.0163996	0.4911134	4.49963E+13	3.1838523	6.70217E+12	0.0130804	0.3917144	3.1838523
200	5898.32	574969	0.1078995	5/7/19 5:42	0.0163996	0.4911134	4.49963E+13	3.1827623	6.70217E+12	0.0152049	0.4553361	3.1827623
201	5896.02	574970	0.1092694	5/7/19 5:47	0.0163996	0.4911134	4.44149E+13	3.2231712	6.70217E+12	0.0153738	0.4603941	3.2231712
202	5901.06	574971	0.1070272	5/7/19 5:52	0.0163996	0.4911134	4.53842E+13	3.1570311	6.70217E+12	0.0162384	0.486286	3.1570311
203	5889.23	574971	0.1068126	5/7/19 5:57	0.0163996	0.4911134	4.53842E+13	3.1570721	6.70217E+12	0.0142726	0.4274168	3.1570721
204	5888.81	574971	0.106805	5/7/19 6:02	0.0219988	0.6587907	4.53842E+13	3.1504774	6.70217E+12	0.0140196	0.4198403	3.1504774
205	5888.88	574971	0.1068063	5/7/19 6:07	0.0219988	0.6587907	4.53842E+13	3.1505149	6.70217E+12	0.0128572	0.3850303	3.1505149

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
206	5894.99	574971	0.1069171	5/7/19 6:12	0.0219988	0.6587907	4.53842E+13	3.1537837	6.70217E+12	0.0139901	0.4189569	3.1537837
207	5888.93	574973	0.1083283	5/7/19 6:17	0.0219988	0.6587907	4.47469E+13	3.1954116	6.70217E+12	0.0169327	0.5070779	3.1954116
208	5883.23	574973	0.10822235	5/7/19 6:22	0.0219988	0.6587907	4.47469E+13	3.1932187	6.70217E+12	0.0161834	0.4846389	3.1932187
209	5874.07	574973	0.108055	5/7/19 6:27	0.0219988	0.6587907	4.47469E+13	3.1873483	6.70217E+12	0.0160255	0.4799103	3.1873483
210	5873.01	574975	0.1081041	5/7/19 6:32	0.0219988	0.6587907	4.47185E+13	3.1887959	6.70217E+12	0.0161849	0.4846838	3.1887959
211	5877.1	574977	0.1051264	5/7/19 6:37	0.0219988	0.6587907	4.60172E+13	3.1009613	6.70217E+12	0.0160886	0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1041746	6.70217E+12	0.01829	0.5477245	3.1041746
213	5883.91	574979	0.1039877	5/7/19 6:47	0.0219988	0.6587907	4.6575E+13	3.0673739	6.70217E+12	0.0197193	0.5905273	3.0673739
214	5887.01	574980	0.1024096	5/7/19 6:52	0.0219988	0.6587907	4.73176E+13	3.0208243	6.70217E+12	0.0172624	0.5169513	3.0208243
215	5890.93	574981	0.1023627	5/7/19 6:57	0.0219988	0.6587907	4.73708E+13	3.0194404	6.70217E+12	0.0219934	0.658629	3.0194404
216	5891.99	574981	0.1023811	5/7/19 7:02	0.0252156	0.7551232	4.73708E+13	3.0199837	6.70217E+12	0.0190854	0.5715441	3.0199837
217	5901.6	574981	0.1025481	5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094	6.70217E+12	0.022021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	5/7/19 7:12	0.0252156	0.7551232	4.72845E+13	3.0296666	6.70217E+12	0.019538	0.585098	3.0296666
219	5902.76	574983	0.1021815	5/7/19 7:17	0.0252156	0.7551232	4.75501E+13	3.0140942	6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/19 7:22	0.0252156	0.7551232	4.73864E+13	3.0240881	6.70217E+12	0.0333844	0.9997515	3.0240881
221	5902.21	574986	0.1024856	5/7/19 7:27	0.0252156	0.7551232	4.74046E+13	3.0230648	6.70217E+12	0.0226755	0.6790556	3.0230648
222	5897.09	574987	0.1012514	5/7/19 7:32	0.0252156	0.7551232	4.79408E+13	2.9866604	6.70217E+12	0.0258656	0.7745885	2.9866604
223	5891.39	574988	0.1001624	5/7/19 7:37	0.0252156	0.7551232	4.84152E+13	2.9545379	6.70217E+12	0.0217027	0.6499235	2.9545379
224	5896.98	574988	0.1002575	5/7/19 7:42	0.0252156	0.7551232	4.84152E+13	2.9573413	6.70217E+12	0.0181457	0.5434032	2.9573413
225	5915.01	574989	0.0992602	5/7/19 7:47	0.0252156	0.7551232	4.90511E+13	2.9729253	6.70217E+12	0.0175618	0.5259174	2.9729253
226	5909.89	574989	0.0991743	5/7/19 7:52	0.0252156	0.7551232	4.90511E+13	2.9523909	6.70217E+12	0.0176235	0.5277651	2.9523909
227	5907.41	574990	0.0997661	5/7/19 7:57	0.0252156	0.7551232	4.87396E+13	2.9428486	6.70217E+12	0.2076065	6.2171227	6.2171227
228	5909.98	574990	0.0998095	5/7/19 8:02	0.0276548	0.8281691	4.87396E+13	2.9441289	6.70217E+12	0.3509108	10.5086088	10.5086088
229	5885.9	574991	0.1001084	5/7/19 8:07	0.0276548	0.8281691	4.83962E+13	2.9529431	6.70217E+12	1.0618156	31.7978378	31.7978378
230	5894.01	574991	0.1002463	5/7/19 8:12	0.0276548	0.8281691	4.83962E+13	2.9570118	6.70217E+12	0.3477068	10.4126596	10.4126596
231	5901.61	574991	0.1003756	5/7/19 8:17	0.0276548	0.8281691	4.83962E+13	2.9608247	6.70217E+12	0.2233212	6.6877255	6.6877255
232	5901.01	574993	0.0990295	5/7/19 8:22	0.0276548	0.8281691	4.9049E+13	2.9211197	6.70217E+12	0.1839307	5.5081114	5.5081114
233	5896.99	574993	0.098962	5/7/19 8:27	0.0276548	0.8281691	4.9049E+13	2.9191298	6.70217E+12	0.2097637	6.2817236	6.2817236
234	5903.12	574994	0.0985656	5/7/19 8:32	0.0276548	0.8281691	4.92975E+13	2.9074343	6.70217E+12	0.0304959	0.9132506	2.9074343
235	5904.99	574994	0.0985968	5/7/19 8:37	0.0276548	0.8281691	4.92975E+13	2.9083554	6.70217E+12	0.029099	0.6860751	2.9083554
236	5928.02	574994	0.0989813	5/7/19 8:42	0.0276548	0.8281691	4.92975E+13	2.9196982	6.70217E+12	0.023268	0.696799	2.9196982
237	5918.93	574994	0.0988295	5/7/19 8:47	0.0276548	0.8281691	4.92975E+13	2.9152212	6.70217E+12	0.0200853	0.6014878	2.9152212
238	5920.48	574994	0.0988554	5/7/19 8:52	0.0276548	0.8281691	4.92975E+13	2.9159846	6.70217E+12	0.02447	0.7327949	2.9159846
239	5927.27	574996	0.1000578	5/7/19 8:57	0.0276548	0.8281691	4.8761E+13	2.9514506	6.70217E+12	0.0185494	0.5554927	2.9514506
240	5970.03	574997	0.0973284	5/7/19 9:02	0.0268411	0.8038015	5.049E+13	2.8709404	6.70217E+12	0.0182697	0.5471166	2.8709404
241	5896.92	574997	0.0961365	5/7/19 9:07	0.0268411	0.8038015	5.049E+13	2.8357824	6.70217E+12	0.0189375	0.567115	2.8357824
242	5876.01	574998	0.0954385	5/7/19 9:12	0.0268411	0.8038015	5.06789E+13	2.8151949	6.70217E+12	0.0203296	0.6088038	2.8151949
243	5818.78	574999	0.0935121	5/7/19 9:17	0.0268411	0.8038015	5.12192E+13	2.758369	6.70217E+12	0.0194987	0.5839211	2.758369
244	5836.61	574999	0.0937986	5/7/19 9:22	0.0268411	0.8038015	5.12192E+13	2.7668213	6.70217E+12	0.0190273	0.5698042	2.7668213
245	5852.94	574999	0.094061	5/7/19 9:27	0.0268411	0.8038015	5.12192E+13	2.7745624	6.70217E+12	0.0201623	0.6037937	2.7745624
246	5843.39	575000	0.0949282	5/7/19 9:32	0.0268411	0.8038015	5.06685E+13	2.8001417	6.70217E+12	0.0195915	0.5867001	2.8001417
247	5840.9	575000	0.0948878	5/7/19 9:37	0.0268411	0.8038015	5.06685E+13	2.7989485	6.70217E+12	0.0208798	0.6252804	2.7989485
248	5844.44	575000	0.0949453	5/7/19 9:42	0.0268411	0.8038015	5.06685E+13	2.8006448	6.70217E+12	0.0199536	0.5975438	2.8006448
249	5831.94	575001	0.0948603	5/7/19 9:47	0.0268411	0.8038015	5.06054E+13	2.7981392	6.70217E+12	0.0196606	0.5887694	2.7981392
250	5840.78	575003	0.0941941	5/7/19 9:52	0.0268411	0.8038015	5.10406E+13	2.7784869	6.70217E+12	0.0187964	0.5628895	2.7784869
251	5839.47	575003	0.094173	5/7/19 9:57	0.0268411	0.8038015	5.10406E+13	2.778637	6.70217E+12	0.0188057	0.563168	2.778637
252	5836.55	575003	0.0941259	5/7/19 9:58	0.0268411	0.8038015	5.10406E+13	2.7764747	6.70217E+12	0.0188057	0.563168	2.7764747
253	5843.59	575003	0.0942394	5/7/19 10:03	0.0287164	0.8599605	5.10406E+13	2.7798236	6.70217E+12	0.0202762	0.6072046	2.7798236
254	5851.93	575003	0.0943739	5/7/19 10:08	0.0287164	0.8599605	5.10406E+13	2.783791	6.70217E+12	0.02195808	0.5863797	2.783791
255	5840.6	575003	0.0941912	5/7/19 10:13	0.0287164	0.8599605	5.10406E+13	2.7784013	6.70217E+12	0.0202654	0.6068812	2.7784013
256	5841.73	575003	0.0942094	5/7/19 10:18	0.0287164	0.8599605	5.10406E+13	2.7789388	6.70217E+12	0.020167	0.6039344	2.7789388

Appx13384

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
257	5837.26	575004	0.0966021	5/7/19 10:23	0.0287164	0.8599605	4.97383E+13	2.8495172	6.70217E+12	0.0196567	0.5886526	2.8495172
258	5843.1	575004	0.0966987	5/7/19 10:28	0.0287164	0.8599605	4.97383E+13	2.853368	6.70217E+12	0.0207215	0.6205399	2.852368
259	5843.45	575005	0.0974035	5/7/19 10:35	0.0287164	0.8599605	4.93814E+13	2.8731576	6.70217E+12	0.0201838	0.6044375	2.8731576
260	5841.01	575005	0.0973629	5/7/19 10:35	0.0287164	0.8599605	4.93814E+13	2.8719579	6.70217E+12	0.0198071	0.5931566	2.8719579
261	5844.02	575005	0.097413	5/7/19 10:42	0.0287164	0.8599605	4.93814E+13	2.8734379	6.70217E+12	0.0200159	0.5994095	2.8734379
262	5844.02	575005	0.097413	5/7/19 10:42	0.0287164	0.8599605	4.93814E+13	2.8734379	6.70217E+12	0.0200159	0.5994095	2.8734379
263	5843.32	575005	0.0974014	5/7/19 10:43	0.0287164	0.8599605	4.93814E+13	2.8730937	6.70217E+12	0.0200159	0.5994095	2.8730937
264	5843.32	575005	0.0974014	5/7/19 10:44	0.0287164	0.8599605	4.93814E+13	2.8730937	6.70217E+12	0.0200159	0.5994095	2.8730937
265	5843.18	575005	0.097399	5/7/19 10:45	0.0287164	0.8599605	4.93814E+13	2.8730249	6.70217E+12	0.0201643	0.6038536	2.8730249
266	5843.18	575005	0.097399	5/7/19 10:46	0.0287164	0.8599605	4.93814E+13	2.8730249	6.70217E+12	0.0201643	0.6038536	2.8730249
267	5843.81	575005	0.0974095	5/7/19 10:48	0.0287164	0.8599605	4.93814E+13	2.8733347	6.70217E+12	0.0201643	0.6038536	2.8733347
268	5855.01	575005	0.0975962	5/7/19 10:51	0.0287164	0.8599605	4.93814E+13	2.8788416	6.70217E+12	0.0202597	0.6067105	2.8788416
269	5853.18	575005	0.0975657	5/7/19 10:52	0.0287164	0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
270	5853.18	575005	0.0975657	5/7/19 10:53	0.0287164	0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
271	5854.99	575005	0.0975959	5/7/19 10:58	0.0287164	0.8599605	4.93814E+13	2.8788317	6.70217E+12	0.0204901	0.6136102	2.8788317
272	5855.01	575005	0.0975962	5/7/19 11:03	0.0273473	0.8189605	4.93814E+13	2.8788416	6.70217E+12	0.019272	0.5771322	2.8788416
273	5862.23	575005	0.0977166	5/7/19 11:08	0.0273473	0.8189605	4.93814E+13	2.8823916	6.70217E+12	0.0185107	0.5543338	2.8823916
274	5868.68	575005	0.0978241	5/7/19 11:13	0.0273473	0.8189605	4.93814E+13	2.885563	6.70217E+12	0.0182389	0.5461943	2.885563
275	5877.1	575005	0.0979644	5/7/19 11:18	0.0273473	0.8189605	4.93814E+13	2.889703	6.70217E+12	0.0175485	0.5255191	2.889703
276	5880.82	575006	0.1020763	5/7/19 11:23	0.0273473	0.8189605	4.74222E+13	3.0109929	6.70217E+12	0.0171425	0.5133607	3.0109929
277	5885.64	575007	0.1017322	5/7/19 11:28	0.0273473	0.8189605	4.76216E+13	3.000843	6.70217E+12	0.0161012	0.4821773	3.000843
278	5888.81	575007	0.101787	5/7/19 11:33	0.0273473	0.8189605	4.76216E+13	3.002452	6.70217E+12	0.0167836	0.5026129	3.002452
279	5887.01	575007	0.1017559	5/7/19 11:38	0.0273473	0.8189605	4.76216E+13	3.0015415	6.70217E+12	0.0174005	0.5212217	3.0015415
280	5885.87	575009	0.1022383	5/7/19 11:43	0.0273473	0.8189605	4.73877E+13	3.0157712	6.70217E+12	0.0181379	0.5431696	3.0157712
281	5882.45	575010	0.1025602	5/7/19 11:48	0.0273473	0.8189605	4.72115E+13	3.0252654	6.70217E+12	0.0188967	0.5658932	3.0252654
282	5889.31	575010	0.1026798	5/7/19 11:53	0.0273473	0.8189605	4.72115E+13	3.0287934	6.70217E+12	0.0191234	0.5726821	3.0287934
283	5888.74	575011	0.1032466	5/7/19 11:58	0.0273473	0.8189605	4.69478E+13	3.0455122	6.70217E+12	0.0189953	0.5688459	3.0455122
284	5894.74	575011	0.1033518	5/7/19 12:03	0.0270574	0.8102789	4.69478E+13	3.0486153	6.70217E+12	0.0201972	0.6048388	3.0486153
285	5895.72	575011	0.1033689	5/7/19 12:08	0.0270574	0.8102789	4.69478E+13	3.0491221	6.70217E+12	0.0246114	0.7370294	3.0491221
286	5907.12	575011	0.1035688	5/7/19 12:13	0.0270574	0.8102789	4.69478E+13	3.0550179	6.70217E+12	0.0195085	0.5842145	3.0550179
287	5908.19	575013	0.1040015	5/7/19 12:18	0.0270574	0.8102789	4.67609E+13	3.0677806	6.70217E+12	0.0177224	0.5307268	3.0677806
288	5895.99	575013	0.1037867	5/7/19 12:23	0.0270574	0.8102789	4.67609E+13	3.0614459	6.70217E+12	0.0163821	0.4905893	3.0614459
289	5898.02	575014	0.1043706	5/7/19 12:27	0.0270574	0.8102789	4.65154E+13	3.0786681	6.70217E+12	0.0162962	0.4880169	3.0786681
290	5895.6	575014	0.1043278	5/7/19 12:32	0.0270574	0.8102789	4.65154E+13	3.0774049	6.70217E+12	0.0164602	0.4929281	3.0774049
291	5887.34	575016	0.1041844	5/7/19 12:37	0.0270574	0.8102789	4.65141E+13	3.0731761	6.70217E+12	0.0200409	0.6001582	3.0731761
292	5889.4	575016	0.1042209	5/7/19 12:42	0.0270574	0.8102789	4.65141E+13	3.0742514	6.70217E+12	0.0215114	0.6441947	3.0742514
293	5893.65	575016	0.1042961	5/7/19 12:47	0.0270574	0.8102789	4.65141E+13	3.0764699	6.70217E+12	0.020945	0.6272329	3.0764699
294	5893.83	575018	0.1033386	5/7/19 12:52	0.0270574	0.8102789	4.69465E+13	3.0482275	6.70217E+12	0.0215906	0.6465665	3.0482275
295	5890.09	575018	0.103273	5/7/19 12:57	0.0270574	0.8102789	4.69465E+13	3.0462932	6.70217E+12	0.0199465	0.5973312	3.0462932
296	5887.86	575018	0.1032339	5/7/19 13:02	0.0260477	0.7800418	4.69465E+13	3.0451399	6.70217E+12	0.0182097	0.5453198	3.0451399
297	5877.45	575018	0.1030514	5/7/19 13:07	0.0260477	0.7800418	4.69465E+13	3.0397559	6.70217E+12	0.0171154	0.5125492	3.0397559
298	5880.76	575018	0.1031095	5/7/19 13:12	0.0260477	0.7800418	4.69465E+13	3.0414678	6.70217E+12	0.0158291	0.4740288	3.0414678
299	5885.01	575018	0.103184	5/7/19 13:17	0.0260477	0.7800418	4.69465E+13	3.0436659	6.70217E+12	0.0156969	0.4700698	3.0436659
300	5886.65	575019	0.105185	5/7/19 13:22	0.0260477	0.7800418	4.60663E+13	3.10269	6.70217E+12	0.0194576	0.5826903	3.10269
301	5886.81	575019	0.1051878	5/7/19 13:27	0.0260477	0.7800418	4.60663E+13	3.1027744	6.70217E+12	0.0237637	0.7116436	3.1027744
302	5886.02	575019	0.1051737	5/7/19 13:32	0.0260477	0.7800418	4.60663E+13	3.102358	6.70217E+12	0.034183	1.0236669	3.102358
303	5878.86	575019	0.1050458	5/7/19 13:37	0.0260477	0.7800418	4.60663E+13	3.0985841	6.70217E+12	0.4823059	14.443454	14.443454
304	5879.94	575019	0.1050651	5/7/19 13:42	0.0260477	0.7800418	4.60663E+13	3.0991534	6.70217E+12	0.1343145	4.0222716	4.0222716
305	5872.78	575020	0.1055767	5/7/19 13:47	0.0260477	0.7800418	4.57872E+13	3.1142442	6.70217E+12	0.0287544	0.8610984	3.1142442
306	5868.57	575020	0.105501	5/7/19 13:52	0.0260477	0.7800418	4.57872E+13	3.1120117	6.70217E+12	0.0442637	1.3255503	3.1120117
307	5877.6	575020	0.1056633	5/7/19 13:57	0.0260477	0.7800418	4.57872E+13	3.1168002	6.70217E+12	0.0156508	0.4686893	3.1168002

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
308	5880.3	575021	0.1070192	5/7/19 14:02	0.025584	0.7661555	4.52279E+13	3.156795	6.70217E+12	0.0212368	0.6359714	3.156795
309	5873.1	575021	0.1068882	5/7/19 14:07	0.025584	0.7661555	4.52279E+13	3.1529297	6.70217E+12	0.0135226	0.4049568	3.1529297
310	5856.76	575021	0.1065908	5/7/19 14:12	0.025584	0.7661555	4.52279E+13	3.1441577	6.70217E+12	0.0161145	0.4825756	3.1441577
311	5835.32	575021	0.1062006	5/7/19 14:17	0.025584	0.7661555	4.52279E+13	3.1326478	6.70217E+12	0.021294	0.6376843	3.1326478
312	5823.7	575021	0.1059891	5/7/19 14:22	0.025584	0.7661555	4.52279E+13	3.1264097	6.70217E+12	0.0232619	0.6966164	3.1264097
313	5823.9	575021	0.1059927	5/7/19 14:27	0.025584	0.7661555	4.52279E+13	3.1265171	6.70217E+12	0.0186602	0.5588108	3.1265171
314	5844.51	575022	0.1063678	5/7/19 14:32	0.025584	0.7661555	4.52279E+13	3.1375814	6.70217E+12	0.0221179	0.6623574	3.1375814
315	5852.73	575022	0.1090264	5/7/19 14:37	0.025584	0.7661555	4.41871E+13	3.2160024	6.70217E+12	0.0160534	0.4807458	3.2160534
316	5842.59	575022	0.1088375	5/7/19 14:42	0.025584	0.7661555	4.41871E+13	3.2104306	6.70217E+12	0.0139152	0.4167139	3.2104306
317	5844.51	575023	0.1093454	5/7/19 14:47	0.025584	0.7661555	4.39963E+13	3.2254517	6.70217E+12	0.0096897	0.2901742	3.2254517
318	5842.77	575023	0.1093128	5/7/19 14:52	0.025584	0.7661555	4.39963E+13	3.2244517	6.70217E+12	0.0082441	0.2468833	3.2244517
319	5843.27	575023	0.1093222	5/7/19 14:57	0.025584	0.7661555	4.39963E+13	3.2247277	6.70217E+12	0.0080116	0.2399207	3.2247277
320	5849.85	575023	0.1094453	5/7/19 15:02	0.0200751	0.6011823	4.39963E+13	3.228359	6.70217E+12	0.004172	0.1249375	3.228359
321	5844.11	575023	0.1093379	5/7/19 15:07	0.0200751	0.6011823	4.39963E+13	3.2251913	6.70217E+12	0.0063173	0.1891821	3.2251913
322	5838.69	575023	0.1092365	5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12	0.0074128	0.2219887	3.2222001
323	5843.57	575023	0.1093278	5/7/19 15:17	0.0200751	0.6011823	4.39963E+13	3.2248932	6.70217E+12	0.0068169	0.2041434	3.2248932
324	5844.59	575023	0.1093469	5/7/19 15:22	0.0200751	0.6011823	4.39963E+13	3.2254562	6.70217E+12	0.0173942	0.5208983	3.2254562
325	5849.99	575023	0.1094479	5/7/19 15:27	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0160868	0.481746	3.2284363
326	5849.99	575023	0.1094479	5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
327	5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
328	5861.7	575023	0.109667	5/7/19 15:42	0.0200751	0.6011823	4.39963E+13	3.2348987	6.70217E+12	0.0164337	0.4921345	3.2348987
329	5871.48	575024	0.1144475	5/7/19 15:47	0.0200751	0.6011823	4.22289E+13	3.3759101	6.70217E+12	0.0172669	0.5170861	3.3759101
330	5859.1	575024	0.1142061	5/7/19 15:52	0.0200751	0.6011823	4.22289E+13	3.368792	6.70217E+12	0.0085437	0.2558553	3.368792
331	5854.1	575025	0.1144044	5/7/19 15:57	0.0200751	0.6011823	4.21197E+13	3.3746406	6.70217E+12	0.0200752	0.6011853	3.3746406
332	5843.22	575026	0.1144995	5/7/19 16:02	0.0216225	0.6475218	4.20066E+13	3.3744456	6.70217E+12	0.0220984	0.6617734	3.3744456
333	5853.43	575026	0.1146996	5/7/19 16:07	0.0216225	0.6475218	4.20066E+13	3.3833471	6.70217E+12	0.0156725	0.4693391	3.3833471
334	5856.16	575026	0.1147531	5/7/19 16:12	0.0216225	0.6475218	4.20066E+13	3.3849425	6.70217E+12	0.0214597	0.6426465	3.3849425
335	5854.02	575026	0.1147111	5/7/19 16:17	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12	0.0239835	0.7182259	3.3836881
336	5850.81	575026	0.1146482	5/7/19 16:22	0.0216225	0.6475218	4.20066E+13	3.3818327	6.70217E+12	0.0167074	0.5003309	3.3818327
337	5854.62	575027	0.1163454	5/7/19 16:27	0.0216225	0.6475218	4.14207E+13	3.3418944	6.70217E+12	0.0156102	0.4674735	3.3418944
338	5855.8	575028	0.1157465	5/7/19 16:32	0.0216225	0.6475218	4.16435E+13	3.4142287	6.70217E+12	0.0163249	0.4888763	3.4142287
339	5856.74	575029	0.1142802	5/7/19 16:37	0.0216225	0.6475218	4.21846E+13	3.3709755	6.70217E+12	0.0175314	0.525007	3.3709755
340	5868.02	575029	0.1145003	5/7/19 16:42	0.0216225	0.6475218	4.21846E+13	3.3774679	6.70217E+12	0.0151098	0.4524881	3.3774679
341	5872.51	575029	0.1145879	5/7/19 16:47	0.0216225	0.6475218	4.21846E+13	3.3800522	6.70217E+12	0.0146534	0.4388205	3.3800522
342	5871.99	575029	0.1145777	5/7/19 16:52	0.0216225	0.6475218	4.21846E+13	3.3797529	6.70217E+12	0.0175759	0.5263396	3.3797529
343	5880.77	575029	0.1147491	5/7/19 16:57	0.0216225	0.6475218	4.21846E+13	3.3848064	6.70217E+12	0.0063504	0.1901733	3.3848064
344	5886.53	575029	0.1148614	5/7/19 17:02	0.0204922	0.6136731	4.21846E+13	3.3881217	6.70217E+12	0.0061338	0.1836869	3.3881217
345	5889.98	575029	0.1149288	5/7/19 17:07	0.0204922	0.6136731	4.21846E+13	3.3901075	6.70217E+12	0.0028472	0.0852641	3.3901075
346	5885.16	575031	0.1147437	5/7/19 17:12	0.0204922	0.6136731	4.2212E+13	3.3846492	6.70217E+12	0.0111196	0.332995	3.3846492
347	5883.88	575032	0.1144564	5/7/19 17:17	0.0204922	0.6136731	4.23148E+13	3.3761744	6.70217E+12	0.0197331	0.5906411	3.3761744
348	5871.02	575033	0.114058	5/7/19 17:22	0.0204922	0.6136731	4.23698E+13	3.364421	6.70217E+12	0.013771	0.4123955	3.364421
349	5872.05	575033	0.114078	5/7/19 17:27	0.0204922	0.6136731	4.23698E+13	3.3650113	6.70217E+12	0.0099314	0.2974123	3.3650113
350	5878.77	575034	0.1147072	5/7/19 17:32	0.0204922	0.6136731	4.21856E+13	3.3835727	6.70217E+12	0.0135307	0.4051994	3.3835727
351	5877.4	575034	0.1146805	5/7/19 17:37	0.0204922	0.6136731	4.21856E+13	3.3827841	6.70217E+12	0.0143791	0.4306061	3.3827841
352	5880.39	575034	0.1147388	5/7/19 17:42	0.0204922	0.6136731	4.21856E+13	3.3845051	6.70217E+12	0.0171643	0.5140136	3.3845051
353	5871.98	575034	0.1145747	5/7/19 17:47	0.0204922	0.6136731	4.21856E+13	3.3796646	6.70217E+12	0.0179472	0.5374588	3.3796646
354	5878.4	575035	0.1155377	5/7/19 17:52	0.0204922	0.6136731	4.18797E+13	3.4080684	6.70217E+12	0.0182428	0.5463111	3.4080684
355	5886.62	575035	0.1156992	5/7/19 17:57	0.0204922	0.6136731	4.18797E+13	3.4128341	6.70217E+12	0.0280718	0.8406568	3.4128341
356	5896.23	575036	0.1119906	5/7/19 18:02	0.0194272	0.5817799	4.33372E+13	3.3034392	6.70217E+12	0.4423178	13.2459437	13.2459437
357	5898.4	575036	0.1120318	5/7/19 18:08	0.0194272	0.5817799	4.33372E+13	3.304655	6.70217E+12	0.19554	5.8557712	5.8557712
358	5899.98	575036	0.1120618	5/7/19 18:13	0.0194272	0.5817799	4.33372E+13	3.3055402	6.70217E+12	0.0183816	0.5504676	3.3055402

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
359	5899.98	575037	0.1118805	5/7/19 18:18	0.0194272	0.5817799	4.34075E+13	3.3001905	6.70217E+12	0.0124839	0.3738512	3.3001905
360	5901.99	575039	0.1087922	5/7/19 18:23	0.0194272	0.5817799	4.46549E+13	3.2909042	6.70217E+12	0.0063404	0.1898738	3.3001905
361	5899.01	575040	0.1082466	5/7/19 18:28	0.0194272	0.5817799	4.48497E+13	3.1903006	6.70217E+12	0.0069752	0.208884	3.1933408
362	5899.19	575041	0.1069708	5/7/19 18:33	0.0194272	0.5817799	4.53937E+13	3.1553672	6.70217E+12	0.0117867	0.3529724	3.1553672
363	5858.01	575041	0.1062241	5/7/19 18:38	0.0194272	0.5817799	4.53937E+13	3.1333408	6.70217E+12	0.0008215	0.0246012	3.1333408
364	5832.84	575041	0.1057677	5/7/19 18:43	0.0194272	0.5817799	4.53937E+13	3.1198778	6.70217E+12	0.007936	0.2376567	3.1198778
365	5825.57	575042	0.1062064	5/7/19 18:48	0.0194272	0.5817799	4.51499E+13	3.1328187	6.70217E+12	0.0131193	0.3928793	3.1328187
366	5730.23	575042	0.1044682	5/7/19 18:53	0.0194272	0.5817799	4.51499E+13	3.0815477	6.70217E+12	0.0147234	0.4409168	3.0815477
367	5765.61	575042	0.1051132	5/7/19 18:58	0.0194272	0.5817799	4.51499E+13	3.100574	6.70217E+12	0.015851	0.4746846	3.100574
368	5698.35	575042	0.103887	5/7/19 19:03	0.0208363	0.6239777	4.51499E+13	3.0644036	6.70217E+12	0.0143949	0.4310793	3.0644036
369	5728.93	575043	0.104596	5/7/19 19:08	0.0208363	0.6239777	4.50844E+13	3.0853184	6.70217E+12	0.0085453	0.2559033	3.0853184
370	5726.34	575044	0.1042417	5/7/19 19:13	0.0208363	0.6239777	4.52172E+13	3.0748672	6.70217E+12	0.0131066	0.392499	3.0748672
371	5721.68	575044	0.1041569	5/7/19 19:18	0.0208363	0.6239777	4.52172E+13	3.072365	6.70217E+12	0.0074483	0.2230518	3.072365
372	5740.89	575044	0.1045066	5/7/19 19:23	0.0208363	0.6239777	4.52172E+13	3.0826801	6.70217E+12	0.0220669	0.6608301	3.0826801
373	5739.97	575047	0.1037772	5/7/19 19:28	0.0208363	0.6239777	4.55277E+13	3.0611659	6.70217E+12	0.0206216	0.6175482	3.0611659
374	5762.15	575047	0.1041783	5/7/19 19:33	0.0208363	0.6239777	4.55277E+13	3.0729946	6.70217E+12	0.0227412	0.6810231	3.0729946
375	5772.32	575048	0.1046881	5/7/19 19:38	0.0208363	0.6239777	4.5386E+13	3.0880343	6.70217E+12	0.0213669	0.6398674	3.0880343
376	5757.52	575048	0.1044197	5/7/19 19:43	0.0208363	0.6239777	4.5386E+13	3.0801167	6.70217E+12	0.0192512	0.5765093	3.0801167
377	5780.76	575048	0.1048412	5/7/19 19:48	0.0208363	0.6239777	4.5386E+13	3.0925494	6.70217E+12	0.0184615	0.5528604	3.0925494
378	5772.27	575049	0.1062044	5/7/19 19:53	0.0208363	0.6239777	4.47376E+13	3.1327595	6.70217E+12	0.0170593	0.5108692	3.1327595
379	5763.53	575049	0.1060435	5/7/19 19:58	0.0208363	0.6239777	4.47376E+13	3.128016	6.70217E+12	0.0193825	0.5804413	3.128016
380	5774.99	575049	0.1062544	5/7/19 20:03	0.0214057	0.6410294	4.47376E+13	3.1342357	6.70217E+12	0.0225229	0.6744858	3.1342357
381	5785.64	575050	0.1067275	5/7/19 20:08	0.0214057	0.6410294	4.46214E+13	3.1481898	6.70217E+12	0.0200782	0.6012752	3.1481898
382	5794.65	575051	0.1065264	5/7/19 20:13	0.0214057	0.6410294	4.47753E+13	3.1422582	6.70217E+12	0.0189119	0.5663484	3.1422582
383	5794.99	575052	0.105856	5/7/19 20:18	0.0214057	0.6410294	4.50615E+13	3.1224836	6.70217E+12	0.0188789	0.5054668	3.1224836
384	5777.32	575052	0.1055332	5/7/19 20:23	0.0214057	0.6410294	4.50615E+13	3.1129625	6.70217E+12	0.0188787	0.5653541	3.1129625
385	5779.44	575052	0.1055719	5/7/19 20:28	0.0214057	0.6410294	4.50615E+13	3.1141049	6.70217E+12	0.0185028	0.5540972	3.1141049
386	5784.49	575053	0.1069047	5/7/19 20:33	0.0214057	0.6410294	4.45386E+13	3.1534189	6.70217E+12	0.0168679	0.5051374	3.1534189
387	5792.26	575054	0.1071284	5/7/19 20:38	0.0214057	0.6410294	4.45053E+13	3.1600161	6.70217E+12	0.0100913	0.3022008	3.1600161
388	5794.99	575055	0.1078127	5/7/19 20:43	0.0214057	0.6410294	4.42437E+13	3.1802017	6.70217E+12	0.0159387	0.4773109	3.1802017
389	5798.99	575056	0.1065136	5/7/19 20:48	0.0214057	0.6410294	4.48142E+13	3.1418807	6.70217E+12	0.0155694	0.4662516	3.1418807
390	5799.99	575056	0.1065319	5/7/19 20:53	0.0214057	0.6410294	4.48142E+13	3.1424225	6.70217E+12	0.0120816	0.3618036	3.1424225
391	5792.47	575056	0.1063938	5/7/19 20:58	0.0214057	0.6410294	4.48142E+13	3.1383482	6.70217E+12	0.0121052	0.3625104	3.1383482
392	5783.99	575057	0.1071229	5/7/19 21:03	0.0187353	0.5610598	4.4444E+13	3.1598544	6.70217E+12	0.0062082	0.1859149	3.1598544
393	5798.01	575060	0.1064196	5/7/19 21:08	0.0187353	0.5610598	4.48462E+13	3.1391083	6.70217E+12	0.0101617	0.304309	3.1391083
394	5804.99	575060	0.1065477	5/7/19 21:13	0.0187353	0.5610598	4.48462E+13	3.1428873	6.70217E+12	0.0147359	0.4412911	3.1428873
395	5804.47	575060	0.1065382	5/7/19 21:18	0.0187353	0.5610598	4.48462E+13	3.1426058	6.70217E+12	0.0161425	0.4834141	3.1426058
396	5797.19	575061	0.1077196	5/7/19 21:23	0.0187353	0.5610598	4.42987E+13	3.1774565	6.70217E+12	0.0166747	0.4993517	3.1774565
397	5796.01	575062	0.1073179	5/7/19 21:28	0.0187353	0.5610598	4.44555E+13	3.1656063	6.70217E+12	0.0162576	0.4868609	3.1656063
398	5796.91	575062	0.1073346	5/7/19 21:33	0.0187353	0.5610598	4.44555E+13	3.1660978	6.70217E+12	0.0154972	0.4640895	3.1660978
399	5804.49	575063	0.1082426	5/7/19 21:38	0.0187353	0.5610598	4.41402E+13	3.1928815	6.70217E+12	0.0140195	0.4198373	3.1928815
400	5807.51	575063	0.1082989	5/7/19 21:43	0.0187353	0.5610598	4.41402E+13	3.1945427	6.70217E+12	0.0138085	0.4135185	3.1945427
401	5806.56	575064	0.107581	5/7/19 21:48	0.0187353	0.5610598	4.44275E+13	3.1733683	6.70217E+12	0.0123646	0.3702786	3.1733683
402	5797.78	575064	0.1074184	5/7/19 21:53	0.0187353	0.5610598	4.44275E+13	3.1685699	6.70217E+12	0.0135325	0.4052533	3.1685699
403	5793.65	575064	0.1073419	5/7/19 21:58	0.0187353	0.5610598	4.44275E+13	3.1663128	6.70217E+12	0.0143717	0.4303845	3.1663128
404	5778.02	575065	0.1070536	5/7/19 22:03	0.0092857	0.2780758	4.44269E+13	3.1578114	6.70217E+12	0.0159167	0.4766521	3.1578114
405	5773.43	575066	0.1052104	5/7/19 22:08	0.0092857	0.2780758	4.51693E+13	3.1034402	6.70217E+12	0.0153253	0.4589417	3.1034402
406	5779.39	575067	0.1054664	5/7/19 22:13	0.0092857	0.2780758	4.51062E+13	3.1109906	6.70217E+12	0.0139439	0.4175733	3.1109906
407	5791.59	575067	0.105689	5/7/19 22:18	0.0092857	0.2780758	4.51062E+13	3.1175577	6.70217E+12	0.0131096	0.3925888	3.1175577
408	5790.02	575067	0.1056603	5/7/19 22:23	0.0092857	0.2780758	4.51062E+13	3.1167126	6.70217E+12	0.0122573	0.3670653	3.1167126
409	5782.94	575067	0.1055311	5/7/19 22:28	0.0092857	0.2780758	4.51062E+13	3.1129015	6.70217E+12	0.0136306	0.408191	3.1129015

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
410	5775.43	575067	0.1053941	5/7/19 22:33	0.0092857	0.2780758	4.51062E+13	3.1088589	6.70217E+12	0.0135185	0.404834	3.1088589
411	5779.99	575068	0.1067775	5/7/19 22:38	0.0092857	0.2780758	4.4557E+13	3.1496656	6.70217E+12	0.0130395	0.3904896	3.1496656
412	5785.55	575068	0.1068802	5/7/19 22:43	0.0092857	0.2780758	4.4557E+13	3.1526954	6.70217E+12	0.0132167	0.3957961	3.1526954
413	5776.9	575070	0.1064823	5/7/19 22:48	0.0092857	0.2780758	4.46566E+13	3.1409571	6.70217E+12	0.0151927	0.4549707	3.1409571
414	5782.35	575070	0.1065827	5/7/19 22:53	0.0092857	0.2780758	4.46566E+13	3.1439203	6.70217E+12	0.0127496	0.381808	3.1439203
415	5778.56	575070	0.1065129	5/7/19 22:58	0.0092857	0.2780758	4.46566E+13	3.1418596	6.70217E+12	0.01094	0.3276165	3.1418596
416	5807.88	575077	0.1057164	5/8/19 00:03	0.010744	0.3211747	4.52214E+13	3.1183659	6.70217E+12	0.0116913	0.3501155	3.1183659
417	5804.11	575077	0.1056478	5/8/19 00:08	0.010744	0.3211747	4.52214E+13	3.1163417	6.70217E+12	0.0120928	0.3621391	3.1163417
418	5801.23	575078	0.1058179	5/8/19 00:13	0.010744	0.3211747	4.51263E+13	3.1213604	6.70217E+12	0.0121536	0.3639598	3.1213604
419	5791.66	575078	0.1056434	5/8/19 00:18	0.010744	0.3211747	4.51263E+13	3.1162113	6.70217E+12	0.0124538	0.3729498	3.1162113
420	5795.5	575078	0.1057134	5/8/19 00:23	0.010744	0.3211747	4.51263E+13	3.1182774	6.70217E+12	0.0132227	0.3959758	3.1182774
421	5795.98	575079	0.1065412	5/8/19 00:28	0.010744	0.3211747	4.47794E+13	3.11426942	6.70217E+12	0.0133711	0.4004199	3.1426942
422	5799.99	575081	0.102499	5/8/19 00:33	0.010744	0.3211747	4.65775E+13	3.0234621	6.70217E+12	0.0173409	0.5193022	3.0234621
423	5804.41	575082	0.1023697	5/8/19 00:38	0.010744	0.3211747	4.66719E+13	3.0196463	6.70217E+12	0.0172819	0.5175353	3.0196463
424	5804.82	575084	0.1015622	5/8/19 00:43	0.010744	0.3211747	4.70463E+13	2.9958274	6.70217E+12	0.0175389	0.5252316	2.9958274
425	5802.49	575086	0.0989662	5/8/19 00:48	0.010744	0.3211747	4.82609E+13	2.9192535	6.70217E+12	0.0173835	0.5205779	2.9192535
426	5795.31	575086	0.0988438	5/8/19 00:53	0.010744	0.3211747	4.82609E+13	2.9156412	6.70217E+12	0.0147548	0.4418571	2.9156412
427	5799.55	575087	0.0990391	5/8/19 00:58	0.010744	0.3211747	4.8201E+13	2.9214025	6.70217E+12	0.0135535	0.4058821	2.9214025
428	5810.52	575087	0.0992264	5/8/19 1:03	0.0116366	0.3484774	4.8201E+13	2.9269284	6.70217E+12	0.0126685	0.3793793	2.9269284
429	5818.01	575087	0.0993543	5/8/19 1:08	0.0116366	0.3484774	4.8201E+13	2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	5/8/19 1:13	0.0116366	0.3484774	4.86011E+13	2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431	5817.29	575090	0.0973429	5/8/19 1:18	0.0116366	0.3484774	4.91901E+13	2.8713676	6.70217E+12	0.0126278	0.3781605	2.8713676
432	5820.91	575090	0.0974051	5/8/19 1:23	0.0116366	0.3484774	4.91901E+13	2.8732038	6.70217E+12	0.0125071	0.374546	2.8732038
433	5831.99	575090	0.0975905	5/8/19 1:28	0.0116366	0.3484774	4.91901E+13	2.8786729	6.70217E+12	0.0125147	0.3747735	2.8786729
434	5837.72	575090	0.0976864	5/8/19 1:33	0.0116366	0.3484774	4.91901E+13	2.8815012	6.70217E+12	0.0030723	0.0920051	2.8815012
435	5825.57	575090	0.0974831	5/8/19 1:38	0.0116366	0.3484774	4.91901E+13	2.875504	6.70217E+12	0.0007008	0.0209866	2.875504
436	5834.9	575090	0.0976392	5/8/19 1:43	0.0116366	0.3484774	4.91901E+13	2.8801093	6.70217E+12	0.002842	0.0851084	2.8801093
437	5839.94	575090	0.0977235	5/8/19 1:49	0.0116366	0.3484774	4.91901E+13	2.882597	6.70217E+12	0.0029206	0.0874622	2.882597
438	5834.68	575090	0.0976355	5/8/19 1:54	0.0116366	0.3484774	4.91901E+13	2.8800007	6.70217E+12	0.0037273	0.1116202	2.8800007
439	5827.66	575090	0.0975181	5/8/19 1:59	0.0116366	0.3484774	4.91901E+13	2.8765356	6.70217E+12	0.0045235	0.1354637	2.8765356
440	5833.57	575090	0.097617	5/8/19 2:04	0.0119665	0.3583568	4.91901E+13	2.8794528	6.70217E+12	0.005794	0.1735128	2.8794528
441	5837.02	575090	0.0976747	5/8/19 2:09	0.0119665	0.3583568	4.91901E+13	2.8811557	6.70217E+12	0.0120927	0.3621361	2.8811557
442	5834.82	575091	0.1021121	5/8/19 2:14	0.0119665	0.3583568	4.70347E+13	3.0120484	6.70217E+12	0.0138694	0.4153423	3.0120484
443	5832.01	575091	0.1020629	5/8/19 2:19	0.0119665	0.3583568	4.70347E+13	3.0105978	6.70217E+12	0.0243003	0.727713	3.0105978
444	5827.28	575091	0.1019802	5/8/19 2:24	0.0119665	0.3583568	4.70347E+13	3.0081561	6.70217E+12	0.0146496	0.4387067	3.0081561
445	5814.3	575091	0.101753	5/8/19 2:29	0.0119665	0.3583568	4.70347E+13	3.0014556	6.70217E+12	0.013417	0.4017944	3.0014556
446	5822.06	575092	0.1015212	5/8/19 2:34	0.0119665	0.3583568	4.72051E+13	2.9946169	6.70217E+12	0.013794	0.4130843	2.9946169
447	5827.69	575092	0.1016193	5/8/19 2:39	0.0119665	0.3583568	4.72051E+13	2.9975127	6.70217E+12	0.0134243	0.402013	2.9975127
448	5825.01	575094	0.1011451	5/8/19 2:44	0.0119665	0.3583568	4.74046E+13	2.9835236	6.70217E+12	0.0173396	0.5192632	2.9835236
449	5825.01	575094	0.1011451	5/8/19 2:49	0.0119665	0.3583568	4.74046E+13	2.9835236	6.70217E+12	0.0160878	0.4811776	2.9835236
450	5827.65	575094	0.1011909	5/8/19 2:54	0.0119665	0.3583568	4.74046E+13	2.9848758	6.70217E+12	0.0135423	0.4055467	2.9848758
451	5828.98	575094	0.101214	5/8/19 2:59	0.0119665	0.3583568	4.74046E+13	2.985557	6.70217E+12	0.0119787	0.3587221	2.985557
452	5816.75	575095	0.1023933	5/8/19 3:04	0.0120924	0.3621271	4.67603E+13	3.020342	6.70217E+12	0.007941	0.2378065	3.020342
453	5816.32	575095	0.1023857	5/8/19 3:09	0.0120924	0.3621271	4.67603E+13	3.0201187	6.70217E+12	0.011828	0.3542092	3.0201187
454	5822.73	575095	0.1024985	5/8/19 3:14	0.0120924	0.3621271	4.67603E+13	3.0234471	6.70217E+12	0.0145702	0.4363289	3.0234471
455	5828.4	575095	0.1025983	5/8/19 3:19	0.0120924	0.3621271	4.67603E+13	3.0263913	6.70217E+12	0.0152655	0.4571508	3.0263913
456	5829.18	575097	0.1038705	5/8/19 3:24	0.0120924	0.3621271	4.61938E+13	3.0639178	6.70217E+12	0.0169161	0.5065808	3.0639178
457	5837.98	575097	0.1040273	5/8/19 3:29	0.0120924	0.3621271	4.61938E+13	3.0685432	6.70217E+12	0.0230203	0.6893813	3.0685432
458	5838.98	575098	0.1040229	5/8/19 3:34	0.0120924	0.3621271	4.62037E+13	3.0684122	6.70217E+12	0.0845618	2.532344	3.0684122
459	5828.52	575098	0.1038366	5/8/19 3:39	0.0120924	0.3621271	4.62037E+13	3.0629154	6.70217E+12	0.0234107	0.7010724	3.0629154
460	5822.59	575099	0.1046272	5/8/19 3:44	0.0120924	0.3621271	4.58079E+13	3.0862378	6.70217E+12	0.0168116	0.5034514	3.0862378

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
461	5803.44	575099	0.1042831	5/8/19 3:49	0.0120924	0.3621271	4.58079E+13	3.0760874	6.70217E+12	0.0140409	0.4204782	3.0760874
462	5796.56	575099	0.1041595	5/8/19 3:54	0.0120924	0.3621271	4.58079E+13	3.0724407	6.70217E+12	0.0144936	0.4340355	3.0724407
463	5807.05	575101	0.1050426	5/8/19 3:59	0.0120924	0.3621271	4.55049E+13	3.0984912	6.70217E+12	0.0119057	0.3565336	3.0984912
464	5809.78	575101	0.105092	5/8/19 4:04	0.0137229	0.4109551	4.55049E+13	3.0999478	6.70217E+12	0.0125622	0.376196	3.0999478
465	5812.68	575101	0.1051445	5/8/19 4:09	0.0137229	0.4109551	4.55049E+13	3.1014952	6.70217E+12	0.0142995	0.4282224	3.1014952
466	5815.61	575102	0.1048815	5/8/19 4:14	0.0137229	0.4109551	4.5642E+13	3.0937385	6.70217E+12	0.0193516	0.5795159	3.0937385
467	5808.55	575103	0.1046033	5/8/19 4:19	0.0137229	0.4109551	4.57078E+13	3.085325	6.70217E+12	0.0200764	0.6012213	3.085325
468	5820.01	575104	0.1050843	5/8/19 4:24	0.0137229	0.4109551	4.55884E+13	3.09972	6.70217E+12	0.0189938	0.568801	3.09972
469	5816.06	575105	0.1052763	5/8/19 4:29	0.0137229	0.4109551	4.54744E+13	3.1053836	6.70217E+12	0.0230152	0.6892285	3.1053836
470	5808.82	575106	0.1053792	5/8/19 4:34	0.0137229	0.4109551	4.53734E+13	3.1084182	6.70217E+12	0.0197229	0.5906351	3.1084182
471	5815.31	575106	0.1054969	5/8/19 4:39	0.0137229	0.4109551	4.53734E+13	3.1118911	6.70217E+12	0.0184185	0.5515727	3.1118911
472	5818.61	575108	0.1056718	5/8/19 4:44	0.0137229	0.4109551	4.5324E+13	3.1170516	6.70217E+12	0.0141625	0.4241197	3.1170516
473	5810.51	575108	0.1055247	5/8/19 4:49	0.0137229	0.4109551	4.5324E+13	3.1127124	6.70217E+12	0.0159072	0.4763676	3.1127124
474	5815.11	575108	0.1056083	5/8/19 4:54	0.0137229	0.4109551	4.5324E+13	3.1151766	6.70217E+12	0.0160139	0.4795629	3.1151766
475	5808.22	575109	0.1054956	5/8/19 4:59	0.0137229	0.4109551	4.53187E+13	3.1118531	6.70217E+12	0.0129169	0.3868181	3.1118531
476	5821.06	575109	0.1057288	5/8/19 5:04	0.0172785	0.5174335	4.53187E+13	3.1187323	6.70217E+12	0.0087613	0.2623717	3.1187323
477	5830.24	575109	0.1058956	5/8/19 5:09	0.0172785	0.5174335	4.53187E+13	3.1236507	6.70217E+12	0.0125147	0.3747735	3.1236507
478	5815.12	575110	0.1063653	5/8/19 5:14	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0158514	0.4746966	3.1375074
479	5816.12	575110	0.1063653	5/8/19 5:19	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0145818	0.4366763	3.1375074
480	5811.28	575111	0.1058572	5/8/19 5:24	0.0172785	0.5174335	4.51877E+13	3.1225197	6.70217E+12	0.0159657	0.4781195	3.1225197
481	5814.19	575113	0.1054793	5/8/19 5:29	0.0172785	0.5174335	4.53722E+13	3.1113735	6.70217E+12	0.0189354	0.5670521	3.1113735
482	5822.89	575113	0.1056372	5/8/19 5:34	0.0172785	0.5174335	4.53722E+13	3.1160292	6.70217E+12	0.0168377	0.504233	3.1160292
483	5825.6	575113	0.1056863	5/8/19 5:39	0.0172785	0.5174335	4.53722E+13	3.1174794	6.70217E+12	0.0142709	0.4273659	3.1174794
484	5825.47	575114	0.1057728	5/8/19 5:44	0.0172785	0.5174335	4.53341E+13	3.1200304	6.70217E+12	0.0162737	0.4873431	3.1200304
485	5830.59	575114	0.1058658	5/8/19 5:49	0.0172785	0.5174335	4.53341E+13	3.1227726	6.70217E+12	0.016296	0.4880109	3.1227726
486	5839.34	575114	0.1060247	5/8/19 5:54	0.0172785	0.5174335	4.53341E+13	3.127459	6.70217E+12	0.0078999	0.2365757	3.127459
487	5838.51	575115	0.1055129	5/8/19 5:59	0.0172785	0.5174335	4.55475E+13	3.1123637	6.70217E+12	0.0157437	0.4714713	3.1123637
488	5829.09	575117	0.1054774	5/8/19 6:04	0.0211899	0.6345669	4.54893E+13	3.1113164	6.70217E+12	0.015334	0.4592022	3.1113164
489	5826.85	575117	0.1054369	5/8/19 6:09	0.0211899	0.6345669	4.54893E+13	3.1101208	6.70217E+12	0.0095667	0.2864908	3.1101208
490	5838.53	575118	0.105587	5/8/19 6:14	0.0211899	0.6345669	4.55157E+13	3.1145494	6.70217E+12	0.0126575	0.3790499	3.1145494
491	5843.74	575119	0.1054459	5/8/19 6:19	0.0211899	0.6345669	4.56173E+13	3.1103869	6.70217E+12	0.0159603	0.4779578	3.1103869
492	5843.03	575119	0.1054331	5/8/19 6:24	0.0211899	0.6345669	4.56173E+13	3.110009	6.70217E+12	0.0169939	0.5089107	3.110009
493	5842.51	575119	0.1054237	5/8/19 6:29	0.0211899	0.6345669	4.56173E+13	3.1097323	6.70217E+12	0.0176305	0.5279747	3.1097323
494	5859.77	575120	0.1055662	5/8/19 6:34	0.0211899	0.6345669	4.56903E+13	3.1139353	6.70217E+12	0.0182108	0.5453528	3.1139353
495	5849.16	575120	0.1053751	5/8/19 6:39	0.0211899	0.6345669	4.56903E+13	3.1082971	6.70217E+12	0.0222873	0.6674303	3.1082971
496	5859.91	575120	0.1055687	5/8/19 6:44	0.0211899	0.6345669	4.56903E+13	3.1140097	6.70217E+12	0.0240313	0.7196573	3.1140097
497	5874.94	575120	0.1058395	5/8/19 6:49	0.0211899	0.6345669	4.56903E+13	3.1219968	6.70217E+12	0.0247785	0.7420335	3.1219968
498	5849.77	575122	0.1058251	5/8/19 6:54	0.0211899	0.6345669	4.55007E+13	3.1215733	6.70217E+12	0.035146	1.0525055	3.1215733
499	5847.52	575123	0.1059851	5/8/19 6:59	0.0211899	0.6345669	4.54146E+13	3.1262913	6.70217E+12	0.0331317	0.992184	3.1262913
500	5858.74	575123	0.1061884	5/8/19 7:04	0.0245969	0.7365952	4.54146E+13	3.1322899	6.70217E+12	0.0225584	0.6755489	3.1322899
501	5868.24	575124	0.1046351	5/8/19 7:09	0.0245969	0.7365952	4.61635E+13	3.0864695	6.70217E+12	0.0227738	0.6819994	3.0864695
502	5860.28	575124	0.1044931	5/8/19 7:14	0.0245969	0.7365952	4.61635E+13	3.0822829	6.70217E+12	0.0189208	0.5666149	3.0822829
503	5864.03	575124	0.10456	5/8/19 7:19	0.0245969	0.7365952	4.61635E+13	3.0842552	6.70217E+12	0.0206953	0.6197553	3.0842552
504	5860.24	575125	0.1049602	5/8/19 7:24	0.0245969	0.7365952	4.59578E+13	3.0960609	6.70217E+12	0.0230157	0.6892435	3.0960609
505	5855.35	575125	0.1048726	5/8/19 7:29	0.0245969	0.7365952	4.59578E+13	3.0934774	6.70217E+12	0.0225888	0.6764593	3.0934774
506	5861.24	575125	0.1049781	5/8/19 7:34	0.0245969	0.7365952	4.59578E+13	3.0965892	6.70217E+12	0.0205788	0.6162665	3.0965892
507	5864.22	575125	0.1050315	5/8/19 7:39	0.0245969	0.7365952	4.59578E+13	3.0981636	6.70217E+12	0.0197214	0.5905902	3.0981636
508	5855.4	575125	0.1048735	5/8/19 7:44	0.0245969	0.7365952	4.59578E+13	3.0935039	6.70217E+12	0.0198359	0.5940191	3.0935039
509	5848.68	575126	0.102448	5/8/19 7:49	0.0245969	0.7365952	4.69919E+13	3.0219576	6.70217E+12	0.0296779	0.8887542	3.0219576
510	5843.55	575127	0.1024751	5/8/19 7:54	0.0245969	0.7365952	4.69382E+13	3.0227572	6.70217E+12	0.0208223	0.6235585	3.0227572
511	5851.77	575127	0.1026193	5/8/19 7:59	0.0245969	0.7365952	4.69382E+13	3.0270092	6.70217E+12	0.0230156	0.6892092	3.0270092

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
512	5849.49	575127	0.1025793	5/8/19 8:04	0.0242095	0.7249938	4.69382E+13	3.0258298	6.70217E+12	0.0232039	0.6948795	3.0258298
513	5849.48	575129	0.1024537	5/8/19 8:09	0.0242095	0.7249938	4.69957E+13	3.0212242	6.70217E+12	0.0199092	0.5962142	3.0221242
514	5848.2	575130	0.1023337	5/8/19 8:14	0.0242095	0.7249938	4.70405E+13	3.0185855	6.70217E+12	0.0193885	0.5806209	3.0185855
515	5833.78	575131	0.1018159	5/8/19 8:19	0.0242095	0.7249938	4.71632E+13	3.0033105	6.70217E+12	0.0228642	0.6847066	3.0033105
516	5845.68	575131	0.1020236	5/8/19 8:24	0.0242095	0.7249938	4.71632E+13	3.0094368	6.70217E+12	0.0197323	0.5909166	3.0094368
517	5850.11	575133	0.101054	5/8/19 8:29	0.0242095	0.7249938	4.76518E+13	2.9808362	6.70217E+12	0.0210194	0.629461	2.9808362
518	5849.94	575134	0.101143	5/8/19 8:34	0.0242095	0.7249938	4.76084E+13	2.9834634	6.70217E+12	0.0253845	0.7601812	2.9834634
519	5844.18	575135	0.1003625	5/8/19 8:39	0.0242095	0.7249938	4.79315E+13	2.9604385	6.70217E+12	0.02187378	0.5611347	2.9604385
520	5844.99	575136	0.1007176	5/8/19 8:45	0.0242095	0.7249938	4.77691E+13	2.9709144	6.70217E+12	0.0201853	0.6044825	2.9709144
521	5856.45	575136	0.1009151	5/8/19 8:50	0.0242095	0.7249938	4.77691E+13	2.9767393	6.70217E+12	0.0212258	0.635642	2.9767393
522	5861.07	575136	0.1009947	5/8/19 8:55	0.0242095	0.7249938	4.77691E+13	2.9790876	6.70217E+12	0.0203371	0.6090284	2.9790876
523	5859.02	575136	0.1009594	5/8/19 9:00	0.0244939	0.7335107	4.77691E+13	2.9780456	6.70217E+12	0.0193291	0.5788421	2.9780456
524	5865.61	575136	0.1010729	5/8/19 9:05	0.0244939	0.7335107	4.77691E+13	2.9813952	6.70217E+12	0.0272511	0.8160796	2.9813952
525	5854.26	575136	0.1008773	5/8/19 9:10	0.0244939	0.7335107	4.77691E+13	2.9756262	6.70217E+12	0.0236817	0.709188	2.9756262
526	5831.3	575137	0.1018101	5/8/19 9:15	0.0244939	0.7335107	4.71458E+13	3.0031404	6.70217E+12	0.2149698	6.4376289	6.4376289
527	5839.16	575137	0.1019473	5/8/19 9:20	0.0244939	0.7335107	4.71458E+13	3.0071883	6.70217E+12	0.2149291	6.4364101	6.4364101
528	5843.2	575137	0.1020179	5/8/19 9:25	0.0244939	0.7335107	4.71458E+13	3.0092689	6.70217E+12	0.0275293	0.8244108	3.0092689
529	5841.15	575137	0.1019821	5/8/19 9:30	0.0244939	0.7335107	4.71458E+13	3.0082132	6.70217E+12	0.0429576	1.2864369	3.0082132
530	5849.05	575139	0.1011946	5/8/19 9:35	0.0244939	0.7335107	4.7577E+13	2.9849829	6.70217E+12	0.0232529	0.6963468	2.9849829
531	5857.36	575140	0.0999202	5/8/19 9:40	0.0244939	0.7335107	4.82522E+13	2.947394	6.70217E+12	0.0229391	0.6869496	2.947394
532	5857.91	575140	0.0999296	5/8/19 9:45	0.0244939	0.7335107	4.82522E+13	2.9476708	6.70217E+12	0.0235124	0.704118	2.9476708
533	5864.03	575140	0.1000304	5/8/19 9:50	0.0244939	0.7335107	4.82522E+13	2.9507504	6.70217E+12	0.0259313	0.776556	2.9507504
534	5868.53	575142	0.0972217	5/8/19 9:55	0.0244939	0.7335107	4.96861E+13	2.8677931	6.70217E+12	0.0202099	0.6052191	2.8677931
535	5857.64	575143	0.0964425	5/8/19 10:00	0.0273545	0.8191761	4.99946E+13	2.8448083	6.70217E+12	0.018816	0.5634765	2.8448083
536	5866.7	575143	0.0965916	5/8/19 10:05	0.0273545	0.8191761	4.99946E+13	2.8492083	6.70217E+12	0.0166105	0.4974291	2.8492083
537	5863.82	575143	0.0965442	5/8/19 10:10	0.0273545	0.8191761	4.99946E+13	2.8478096	6.70217E+12	0.0189675	0.5680134	2.8478096
538	5866.01	575143	0.0965803	5/8/19 10:15	0.0273545	0.8191761	4.99946E+13	2.8488732	6.70217E+12	0.0207265	0.6206896	2.8488732
539	5864.99	575144	0.0934511	5/8/19 10:20	0.0273545	0.8191761	5.16596E+13	2.7565705	6.70217E+12	0.0230154	0.6892345	2.7565705
540	5879.4	575144	0.0936807	5/8/19 10:25	0.0273545	0.8191761	5.16596E+13	2.7633433	6.70217E+12	0.022665	0.6787412	2.7633433
541	5893.62	575144	0.0939073	5/8/19 10:30	0.0273545	0.8191761	5.16596E+13	2.7700267	6.70217E+12	0.026083	0.7810989	2.7700267
542	5896.01	575144	0.0939454	5/8/19 10:35	0.0273545	0.8191761	5.16596E+13	2.77115	6.70217E+12	0.0230839	0.6912859	2.77115
543	5888.01	575145	0.0946022	5/8/19 10:40	0.0273545	0.8191761	5.12313E+13	2.790525	6.70217E+12	0.0287548	0.8611104	2.790525
544	5881.26	575145	0.0944937	5/8/19 10:45	0.0273545	0.8191761	5.12313E+13	2.787326	6.70217E+12	0.0290496	0.8699387	2.787326
545	5890.78	575145	0.0946467	5/8/19 10:50	0.0273545	0.8191761	5.12313E+13	2.7918378	6.70217E+12	0.031648	0.9477521	2.7918378
546	5902.32	575145	0.0948321	5/8/19 10:55	0.0273545	0.8191761	5.12313E+13	2.797307	6.70217E+12	0.0386126	1.1563187	2.797307
547	5892.56	575146	0.0957691	5/8/19 11:01	0.0256602	0.7684375	5.06462E+13	2.8249464	6.70217E+12	0.1850845	5.5426638	5.5426638
548	5892.8	575146	0.095773	5/8/19 11:06	0.0256602	0.7684375	5.06462E+13	2.8250615	6.70217E+12	0.1223436	3.663783	3.663783
549	5886.97	575146	0.0956783	5/8/19 11:11	0.0256602	0.7684375	5.06462E+13	2.8222665	6.70217E+12	0.0289788	0.8678185	2.8222665
550	5886.09	575147	0.095016	5/8/19 11:16	0.0256602	0.7684375	5.09916E+13	2.8027303	6.70217E+12	0.0293671	0.8794468	2.8027303
551	5892.15	575147	0.0951138	5/8/19 11:21	0.0256602	0.7684375	5.09916E+13	2.8056159	6.70217E+12	0.0222423	0.6660827	2.8056159
552	5876.44	575148	0.0951515	5/8/19 11:26	0.0256602	0.7684375	5.08355E+13	2.8067268	6.70217E+12	0.0207227	0.6205758	2.8067268
553	5884.06	575149	0.0955244	5/8/19 11:31	0.0256602	0.7684375	5.07027E+13	2.8177282	6.70217E+12	0.0191584	0.5737302	2.8177282
554	5888.27	575149	0.0955928	5/8/19 11:36	0.0256602	0.7684375	5.07027E+13	2.8197442	6.70217E+12	0.0213724	0.6400321	2.8197442
555	5886.01	575149	0.0955561	5/8/19 11:41	0.0256602	0.7684375	5.07027E+13	2.818662	6.70217E+12	0.0222172	0.6653311	2.818662
556	5884.57	575150	0.0935906	5/8/19 11:46	0.0256602	0.7684375	5.17548E+13	2.7608856	6.70217E+12	0.0230647	0.6907109	2.7608856
557	5889.82	575150	0.0936741	5/8/19 11:51	0.0256602	0.7684375	5.17548E+13	2.7631486	6.70217E+12	0.0228225	0.6834578	2.7631486
558	5888.19	575151	0.0945307	5/8/19 11:56	0.0256602	0.7684375	5.12716E+13	2.7884168	6.70217E+12	0.0233477	0.6991858	2.7884168
559	5872.61	575151	0.0942806	5/8/19 12:01	0.026371	0.7897235	5.12716E+13	2.7810387	6.70217E+12	0.0224703	0.6729106	2.7810387
560	5867.29	575152	0.0946705	5/8/19 12:06	0.026371	0.7897235	5.10142E+13	2.7925413	6.70217E+12	0.0217427	0.6511214	2.7925413
561	5863.69	575152	0.0946125	5/8/19 12:11	0.026371	0.7897235	5.10142E+13	2.7908278	6.70217E+12	0.0206502	0.6184047	2.7908278
562	5866.61	575153	0.0947421	5/8/19 12:16	0.026371	0.7897235	5.09698E+13	2.7946505	6.70217E+12	0.0211696	0.633959	2.7946505

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
563	5868.73	575154	0.0943442	5/8/19 12:21	0.026371	0.7897235	5.12032E+13	2.7829139	6.70217E+12	0.0227271	0.6806009	2.7829139
564	5877.65	575154	0.0944876	5/8/19 12:26	0.026371	0.7897235	5.12032E+13	2.7871437	6.70217E+12	0.0262613	0.7864384	2.7871437
565	5886.52	575156	0.0934827	5/8/19 12:31	0.026371	0.7897235	5.18317E+13	2.7575042	6.70217E+12	0.0246938	0.7395042	2.7575042
566	5883.25	575156	0.0934308	5/8/19 12:36	0.026371	0.7897235	5.18317E+13	2.7559724	6.70217E+12	0.0239477	0.7171538	2.7559724
567	5880.8	575156	0.0933319	5/8/19 12:41	0.026371	0.7897235	5.18317E+13	2.7548247	6.70217E+12	0.0215346	0.6448895	2.7548247
568	5886.84	575157	0.0931778	5/8/19 12:46	0.026371	0.7897235	5.20042E+13	2.7485095	6.70217E+12	0.0215175	0.6443774	2.7485095
569	5887.77	575157	0.0931925	5/8/19 12:51	0.026371	0.7897235	5.20042E+13	2.7489437	6.70217E+12	0.0210953	0.6317339	2.7489437
570	5886.14	575159	0.0936745	5/8/19 12:56	0.026371	0.7897235	5.17223E+13	2.7631598	6.70217E+12	0.0221968	0.6647202	2.7631598
571	5880.23	575159	0.0935804	5/8/19 13:01	0.0224056	0.670973	5.17223E+13	2.7603855	6.70217E+12	0.0220558	0.6604977	2.7603855
572	5884.79	575159	0.093653	5/8/19 13:06	0.0224056	0.670973	5.17223E+13	2.7625261	6.70217E+12	0.0232481	0.6962031	2.7625261
573	5887.12	575159	0.0936901	5/8/19 13:11	0.0224056	0.670973	5.17223E+13	2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
574	5882.83	575159	0.0936218	5/8/19 13:16	0.0224056	0.670973	5.17223E+13	2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
575	5887.05	575160	0.095298	5/8/19 13:21	0.0224056	0.670973	5.0849E+13	2.8110496	6.70217E+12	0.0210217	0.6295298	2.8110496
576	5885.01	575161	0.0954767	5/8/19 13:26	0.0224056	0.670973	5.07362E+13	2.8163217	6.70217E+12	0.0209618	0.627736	2.8163217
577	5877.03	575161	0.0953473	5/8/19 13:31	0.0224056	0.670973	5.07362E+13	2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
578	5864.5	575163	0.0928787	5/8/19 13:36	0.0224056	0.670973	5.19737E+13	2.7996868	6.70217E+12	0.0197032	0.5900452	2.7996868
579	5878.37	575163	0.0930984	5/8/19 13:41	0.0224056	0.670973	5.19737E+13	2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
580	5884.42	575163	0.0931942	5/8/19 13:46	0.0224056	0.670973	5.19737E+13	2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
581	5882.28	575163	0.0931603	5/8/19 13:51	0.0224056	0.670973	5.19737E+13	2.747993	6.70217E+12	0.0286405	0.8576875	2.747993
582	5884.83	575163	0.0932007	5/8/19 13:56	0.0224056	0.670973	5.19737E+13	2.7491843	6.70217E+12	0.0262751	0.7868517	2.7491843
583	5884.52	575164	0.0946934	5/8/19 14:01	0.0200678	0.6009637	5.11517E+13	2.793214	6.70217E+12	0.027166	0.8135311	2.793214
584	5879.67	575164	0.0946153	5/8/19 14:06	0.0200678	0.6009637	5.11517E+13	2.7909119	6.70217E+12	0.0243166	0.7282011	2.7909119
585	5877.49	575164	0.0945802	5/8/19 14:11	0.0200678	0.6009637	5.11517E+13	2.7898771	6.70217E+12	0.0208701	0.6249899	2.7898771
586	5887.28	575166	0.0950829	5/8/19 14:16	0.0200678	0.6009637	5.0966E+13	2.8047039	6.70217E+12	0.0218292	0.6537118	2.8047039
587	5884.05	575166	0.0950307	5/8/19 14:21	0.0200678	0.6009637	5.0966E+13	2.8031651	6.70217E+12	0.0217633	0.6517383	2.8031651
588	5885.12	575166	0.095048	5/8/19 14:26	0.0200678	0.6009637	5.0966E+13	2.8036749	6.70217E+12	0.0217781	0.6521815	2.8036749
589	5902.91	575167	0.0961455	5/8/19 14:31	0.0200678	0.6009637	5.05365E+13	2.836049	6.70217E+12	0.021451	0.6423859	2.836049
590	5902.72	575167	0.0961424	5/8/19 14:36	0.0200678	0.6009637	5.05365E+13	2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
591	5906.61	575167	0.0962058	5/8/19 14:41	0.0200678	0.6009637	5.05365E+13	2.8378267	6.70217E+12	0.0426523	1.2772942	2.8378267
592	5912.28	575167	0.0962981	5/8/19 14:46	0.0200678	0.6009637	5.05365E+13	2.8405508	6.70217E+12	0.1999116	5.986686	5.986686
593	5908.65	575170	0.095031	5/8/19 14:51	0.0200678	0.6009637	5.1179E+13	2.8031727	6.70217E+12	0.2670565	7.997452	7.997452
594	5900.02	575170	0.0948922	5/8/19 14:56	0.0200678	0.6009637	5.1179E+13	2.7990785	6.70217E+12	0.0299601	0.8972051	2.7990785
595	5884.23	575171	0.0950701	5/8/19 15:01	0.0170556	0.5107584	5.09465E+13	2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
596	5890.02	575171	0.0951636	5/8/19 15:06	0.0170556	0.5107584	5.09465E+13	2.8070857	6.70217E+12	0.0254303	0.7615527	2.8070857
597	5890.65	575171	0.0951738	5/8/19 15:11	0.0170556	0.5107584	5.09465E+13	2.8073859	6.70217E+12	0.0264722	0.7927541	2.8073859
598	5868.34	575171	0.0948133	5/8/19 15:16	0.0170556	0.5107584	5.09465E+13	2.7967533	6.70217E+12	0.0232906	0.6974758	2.7967533
599	5883.01	575172	0.0962041	5/8/19 15:21	0.0170556	0.5107584	5.03355E+13	2.8377777	6.70217E+12	0.0222239	0.6655317	2.8377777
600	5877.22	575172	0.0961094	5/8/19 15:26	0.0170556	0.5107584	5.03355E+13	2.8349841	6.70217E+12	0.021497	0.6437635	2.8349841
601	5882.35	575173	0.0955836	5/8/19 15:31	0.0170556	0.5107584	5.06566E+13	2.8194728	6.70217E+12	0.0233908	0.7004765	2.8194728
602	5895.23	575174	0.0960485	5/8/19 15:36	0.0170556	0.5107584	5.05218E+13	2.8331879	6.70217E+12	0.0260191	0.7791853	2.8331879
603	5891.02	575174	0.0959799	5/8/19 15:41	0.0170556	0.5107584	5.05218E+13	2.8311646	6.70217E+12	0.0204508	0.6124333	2.8311646
604	5895.3	575174	0.0960497	5/8/19 15:46	0.0170556	0.5107584	5.05218E+13	2.8332215	6.70217E+12	0.0203869	0.6105197	2.8332215
605	5898.69	575174	0.0961049	5/8/19 15:51	0.0170556	0.5107584	5.05218E+13	2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
606	5898.34	575175	0.0970802	5/8/19 15:56	0.0170556	0.5107584	5.00112E+13	2.863621	6.70217E+12	0.0209194	0.6264663	2.863621
607	5900.14	575176	0.0971661	5/8/19 16:01	0.0174326	0.5220483	4.99823E+13	2.8661537	6.70217E+12	0.0209977	0.6288111	2.8661537
608	5891.31	575176	0.0970207	5/8/19 16:06	0.0174326	0.5220483	4.99823E+13	2.8618643	6.70217E+12	0.0203367	0.6090164	2.8618643
609	5893.65	575176	0.0970592	5/8/19 16:11	0.0174326	0.5220483	4.99823E+13	2.863001	6.70217E+12	0.0213506	0.6393793	2.863001
610	5892.53	575177	0.0969298	5/8/19 16:16	0.0174326	0.5220483	5.00395E+13	2.8591849	6.70217E+12	0.0261533	0.7832042	2.8591849
611	5894.16	575177	0.0969567	5/8/19 16:21	0.0174326	0.5220483	5.00395E+13	2.8599758	6.70217E+12	0.0215949	0.7744987	2.8599758
612	5895.84	575178	0.097646	5/8/19 16:26	0.0174326	0.5220483	4.97004E+13	2.88031	6.70217E+12	0.0215949	0.6466953	2.88031
613	5896.89	575179	0.0980892	5/8/19 16:31	0.0174326	0.5220483	4.94846E+13	2.8933819	6.70217E+12	0.0198411	0.5941748	2.8933819

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
614	5902.19	575180	0.0983841	5/8/19 16:36	0.0174326	0.5220483	4.93807E+13	2.9020809	6.70217E+12	0.0207134	0.6202973	2.9020809
615	5905.9	575181	0.097534	5/8/19 16:41	0.0174326	0.5220483	4.98424E+13	2.8770052	6.70217E+12	0.0223016	0.6678586	2.8770052
616	5906.84	575181	0.0975495	5/8/19 16:46	0.0174326	0.5220483	4.98424E+13	2.8774631	6.70217E+12	0.0254538	0.7622565	2.8774631
617	5904.42	575181	0.0975095	5/8/19 16:51	0.0174326	0.5220483	4.98424E+13	2.8762842	6.70217E+12	0.025079	0.7510325	2.8762842
618	5903.02	575181	0.0974864	5/8/19 16:56	0.0174326	0.5220483	4.98424E+13	2.8756022	6.70217E+12	0.0246071	0.7369006	2.8756022
619	5894.63	575182	0.0989154	5/8/19 17:01	0.0174032	0.5211678	4.90525E+13	2.917544	6.70217E+12	0.0226389	0.6779596	2.917544
620	5898.06	575182	0.098973	5/8/19 17:06	0.0174032	0.5211678	4.90525E+13	2.9194522	6.70217E+12	0.0256642	0.7685572	2.9194522
621	5891.22	575182	0.0988582	5/8/19 17:11	0.0174032	0.5211678	4.90525E+13	2.9160665	6.70217E+12	0.0384273	1.1507695	2.9160665
622	5888.49	575182	0.0988124	5/8/19 17:16	0.0174032	0.5211678	4.90525E+13	2.9147151	6.70217E+12	0.0364449	1.0914033	2.9147151
623	5895.57	575183	0.0996828	5/8/19 17:21	0.0174032	0.5211678	4.86826E+13	2.9403898	6.70217E+12	0.0191003	0.5719903	2.9403898
624	5896.91	575183	0.0997054	5/8/19 17:26	0.0174032	0.5211678	4.86826E+13	2.9410582	6.70217E+12	0.0230176	0.6893004	2.9410582
625	5918.72	575183	0.1000742	5/8/19 17:31	0.0174032	0.5211678	4.86826E+13	2.9519358	6.70217E+12	0.0030289	0.0907055	2.9519358
626	5926.18	575183	0.1002003	5/8/19 17:36	0.0174032	0.5211678	4.86826E+13	2.9556564	6.70217E+12	0.0439309	1.315584	2.9556564
627	5934.97	575183	0.100349	5/8/19 17:41	0.0174032	0.5211678	4.86826E+13	2.9600404	6.70217E+12	0.0408583	1.2235699	2.9600404
628	5944.99	575185	0.100551	5/8/19 17:46	0.0174032	0.5211678	4.86669E+13	2.9659989	6.70217E+12	0.0170991	0.512061	2.9659989
629	5940.01	575185	0.1004667	5/8/19 17:51	0.0174032	0.5211678	4.86669E+13	2.9635144	6.70217E+12	0.0183967	0.5509198	2.9635144
630	5931.52	575186	0.1008871	5/8/19 17:56	0.0174032	0.5211678	4.83948E+13	2.9759139	6.70217E+12	0.0163528	0.4897119	2.9759139
631	5938.6	575188	0.0986457	5/8/19 18:01	0.0165475	0.4955425	4.95535E+13	2.9097985	6.70217E+12	0.0185884	0.5566606	2.9097985
632	5931.02	575189	0.0980181	5/8/19 18:06	0.0165475	0.4955425	4.98071E+13	2.8912849	6.70217E+12	0.0173413	0.5193141	2.8912849
633	5928.19	575189	0.0979713	5/8/19 18:12	0.0165475	0.4955425	4.98071E+13	2.8899053	6.70217E+12	0.0187899	0.5626949	2.8899053
634	5932.23	575189	0.0980381	5/8/19 18:17	0.0165475	0.4955425	4.98071E+13	2.8918748	6.70217E+12	0.0180684	0.5410884	2.8918748
635	5931.78	575189	0.0980306	5/8/19 18:22	0.0165475	0.4955425	4.98071E+13	2.8916554	6.70217E+12	0.0164812	0.493557	2.8916554
636	5964.15	575189	0.0985656	5/8/19 18:27	0.0165475	0.4955425	4.98071E+13	2.9074353	6.70217E+12	0.0180238	0.5397527	2.9074353
637	5899.89	575189	0.0975036	5/8/19 18:32	0.0165475	0.4955425	4.98071E+13	2.8761095	6.70217E+12	0.0168118	0.5034574	2.8761095
638	5931.45	575190	0.1008336	5/8/19 18:37	0.0165475	0.4955425	4.84199E+13	2.9743362	6.70217E+12	0.0122315	0.3662927	2.9743362
639	5929.97	575190	0.1008085	5/8/19 18:42	0.0165475	0.4955425	4.84199E+13	2.973594	6.70217E+12	0.0162317	0.4860853	2.973594
640	5923.2	575191	0.0994527	5/8/19 18:47	0.0165475	0.4955425	4.90239E+13	2.9336031	6.70217E+12	0.0090855	0.2720804	2.9336031
641	5934.99	575192	0.0992547	5/8/19 18:52	0.0165475	0.4955425	4.92195E+13	2.9277617	6.70217E+12	0.0122121	0.3657117	2.9277617
642	5940.66	575194	0.0989022	5/8/19 18:57	0.0165475	0.4955425	4.94421E+13	2.9173636	6.70217E+12	0.0091815	0.2749553	2.9173636
643	5948.18	575194	0.0990274	5/8/19 19:02	0.0158704	0.4752656	4.94421E+13	2.9210566	6.70217E+12	0.0137605	0.4120811	2.9210566
644	5964.98	575194	0.0993071	5/8/19 19:07	0.0158704	0.4752656	4.94421E+13	2.9293068	6.70217E+12	0.0152734	0.4573874	2.9293068
645	5960.1	575194	0.0992258	5/8/19 19:12	0.0158704	0.4752656	4.94421E+13	2.9269103	6.70217E+12	0.0109359	0.3274938	2.9269103
646	5946.01	575194	0.0989912	5/8/19 19:17	0.0158704	0.4752656	4.94421E+13	2.9199909	6.70217E+12	0.0150092	0.4494755	2.9199909
647	5937.16	575194	0.0988439	5/8/19 19:22	0.0158704	0.4752656	4.94421E+13	2.9156448	6.70217E+12	0.0154969	0.4640805	2.9156448
648	5955.08	575194	0.0991422	5/8/19 19:27	0.0158704	0.4752656	4.94421E+13	2.9244451	6.70217E+12	0.0152611	0.4570191	2.9244451
649	5957.68	575195	0.1010248	5/8/19 19:32	0.0158704	0.4752656	4.85444E+13	2.979976	6.70217E+12	0.0228461	0.6841645	2.979976
650	5962.91	575195	0.1011084	5/8/19 19:37	0.0158704	0.4752656	4.85444E+13	2.9824418	6.70217E+12	0.0165428	0.4954017	2.9824418
651	5956.59	575195	0.1010012	5/8/19 19:42	0.0158704	0.4752656	4.85444E+13	2.9792807	6.70217E+12	0.0163774	0.4904485	2.9792807
652	5957.7	575195	0.1010201	5/8/19 19:47	0.0158704	0.4752656	4.85444E+13	2.9798359	6.70217E+12	0.0147872	0.4428273	2.9798359
653	5969.98	575195	0.1012283	5/8/19 19:52	0.0158704	0.4752656	4.85444E+13	2.985978	6.70217E+12	0.0161979	0.4850731	2.985978
654	5987.65	575195	0.1015279	5/8/19 19:57	0.0158704	0.4752656	4.85444E+13	2.9948159	6.70217E+12	0.0140256	0.42002	2.9948159
655	6036.6	575195	0.1023379	5/8/19 20:02	0.013261	0.3971227	4.85444E+13	3.019299	6.70217E+12	0.0154454	0.4625382	3.019299
656	6037.49	575196	0.1050403	5/8/19 20:07	0.013261	0.3971227	4.73117E+13	3.0984226	6.70217E+12	0.0157078	0.4703963	3.0984226
657	6092.47	575196	0.1059968	5/8/19 20:12	0.013261	0.3971227	4.73117E+13	3.1266382	6.70217E+12	0.0215321	0.6448146	3.1266382
658	6052.38	575196	0.1052994	5/8/19 20:17	0.013261	0.3971227	4.73117E+13	3.1060641	6.70217E+12	0.018557	0.5557203	3.1060641
659	6053.32	575199	0.1035905	5/8/19 20:22	0.013261	0.3971227	4.80997E+13	3.0556586	6.70217E+12	0.0163585	0.4898825	3.0556586
660	6041.03	575200	0.1032464	5/8/19 20:27	0.013261	0.3971227	4.8162E+13	3.0455058	6.70217E+12	0.0188459	0.5643719	3.0455058
661	6030.66	575202	0.1032473	5/8/19 20:32	0.013261	0.3971227	4.80789E+13	3.0455341	6.70217E+12	0.0134602	0.4030881	3.0455341
662	6043.34	575204	0.1032455	5/8/19 20:37	0.013261	0.3971227	4.81808E+13	3.0454809	6.70217E+12	0.0164743	0.4933504	3.0454809
663	6042.19	575204	0.1032259	5/8/19 20:42	0.013261	0.3971227	4.81808E+13	3.0449014	6.70217E+12	0.0147002	0.440222	3.0449014
664	6049.96	575204	0.1033586	5/8/19 20:47	0.013261	0.3971227	4.81808E+13	3.0488817	6.70217E+12	0.0148678	0.4452411	3.0488817

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
665	6051.76	575205	0.1040715	5/8/19 20:52	0.013261	0.3971227	4.7865E+13	3.0698443	6.70217E+12	0.0130545	0.3909388	3.0698443
666	6054.77	575206	0.1045618	5/8/19 20:57	0.013261	0.3971227	4.76643E+13	3.084309	6.70217E+12	0.0122348	0.3663915	3.084309
667	6045.31	575207	0.1043985	5/8/19 21:02	0.0057558	0.172367	4.76643E+13	3.0794901	6.70217E+12	0.0113115	0.3387417	3.0794901
668	6042.99	575207	0.1043195	5/8/19 21:07	0.0057558	0.172367	4.7682E+13	3.0771614	6.70217E+12	0.0064092	0.1919342	3.0771614
669	6038.47	575207	0.1042415	5/8/19 21:12	0.0057558	0.172367	4.7682E+13	3.0748598	6.70217E+12	0.0050076	0.1499609	3.0748598
670	6046.62	575207	0.1043822	5/8/19 21:17	0.0057558	0.172367	4.7682E+13	3.0790099	6.70217E+12	-0.0026668	-0.0798618	3.0790099
671	6044.8	575207	0.1043508	5/8/19 21:22	0.0057558	0.172367	4.7682E+13	3.0780831	6.70217E+12	0.0105849	0.3169825	3.0780831
672	6048.33	575207	0.1044117	5/8/19 21:27	0.0057558	0.172367	4.7682E+13	3.0798806	6.70217E+12	0.0086089	0.2578079	3.0798806
673	6052.87	575208	0.1057954	5/8/19 21:32	0.0057558	0.172367	4.70937E+13	3.1206959	6.70217E+12	0.0018	0.053904	3.1206959
674	6056.61	575210	0.1055202	5/8/19 21:37	0.0057558	0.172367	4.72457E+13	3.1125773	6.70217E+12	-0.0021614	-0.0647267	3.1125773
675	6049.99	575212	0.0995054	5/8/19 21:42	0.0057558	0.172367	5.01295E+13	2.9351584	6.70217E+12	-0.0034416	-0.1030644	2.9351584
676	6059.69	575213	0.0988159	5/8/19 21:47	0.0057558	0.172367	5.03935E+13	2.9148188	6.70217E+12	-0.0015146	-0.0453572	2.9148188
677	6056.42	575214	0.0996142	5/8/19 21:52	0.0057558	0.172367	5.00453E+13	2.9383674	6.70217E+12	-0.0023178	-0.0694104	2.9383674
678	6045.27	575214	0.0994308	5/8/19 21:57	0.0057558	0.172367	5.00453E+13	2.9329578	6.70217E+12	0.0029429	0.08813	2.9329578
679	6041.19	575214	0.0993637	5/8/19 22:02	-0.0039885	-0.1194423	5.00453E+13	2.9309783	6.70217E+12	0.0028846	0.0863842	2.9309783
680	6033.23	575215	0.0986577	5/8/19 22:07	-0.0039885	-0.1194423	5.0337E+13	2.9101535	6.70217E+12	-0.0021717	-0.0650352	2.9101535
681	6034.99	575215	0.0986865	5/8/19 22:12	-0.0039885	-0.1194423	5.0337E+13	2.9110025	6.70217E+12	0.0094236	0.282054	2.9110025
682	6042.83	575215	0.0988147	5/8/19 22:17	-0.0039885	-0.1194423	5.0337E+13	2.9147841	6.70217E+12	-0.0117128	-0.3507593	2.9147841
683	6033.48	575216	0.0981874	5/8/19 22:22	-0.0039885	-0.1194423	5.05802E+13	2.8962791	6.70217E+12	-0.0071632	-0.214514	2.8962791
684	6028.01	575217	0.0985494	5/8/19 22:27	-0.0039885	-0.1194423	5.03487E+13	2.9069577	6.70217E+12	-0.0043047	-0.1289114	2.9069577
685	6027.43	575217	0.0985399	5/8/19 22:32	-0.0039885	-0.1194423	5.03487E+13	2.906678	6.70217E+12	-0.0026014	-0.0779033	2.906678
686	6029.94	575217	0.098581	5/8/19 22:37	-0.0039885	-0.1194423	5.03487E+13	2.9078884	6.70217E+12	-0.0017683	-0.0529547	2.9078884
687	6039.16	575219	0.0983331	5/8/19 22:42	-0.0039885	-0.1194423	5.05528E+13	2.9005763	6.70217E+12	-0.0018002	-0.05391	2.9005763
688	6039.06	575221	0.0975716	5/8/19 22:47	-0.0039885	-0.1194423	5.09465E+13	2.8781157	6.70217E+12	0.0035525	0.1063855	2.8781157
689	6035.97	575221	0.0975217	5/8/19 22:52	-0.0039885	-0.1194423	5.09465E+13	2.876643	6.70217E+12	-0.0028608	-0.0856714	2.876643
690	6041.91	575222	0.0971742	5/8/19 22:57	-0.0039885	-0.1194423	5.1179E+13	2.8663937	6.70217E+12	-0.0044334	-0.1327656	2.8663937
691	6066.64	575224	0.1014592	5/9/19 0:02	-0.0060127	-0.1800603	4.92181E+13	2.9927906	6.70217E+12	-0.0145142	-0.4346519	2.9927906
692	6072.36	575225	0.1021048	5/9/19 0:07	-0.0060127	-0.1800603	4.89531E+13	3.0118316	6.70217E+12	-0.0130235	-0.3900104	3.0118316
693	6068.07	575225	0.1020326	5/9/19 0:12	-0.0060127	-0.1800603	4.89531E+13	3.0097038	6.70217E+12	-0.0286682	-0.858517	3.0097038
694	6076.08	575225	0.1021673	5/9/19 0:17	-0.0060127	-0.1800603	4.89531E+13	3.0136767	6.70217E+12	-0.0231556	-0.693433	3.0136767
695	6077.05	575225	0.1021836	5/9/19 0:22	-0.0060127	-0.1800603	4.89531E+13	3.014578	6.70217E+12	-0.0015472	-0.0463335	3.014578
696	6056.56	575225	0.1018391	5/9/19 0:27	-0.0060127	-0.1800603	4.89531E+13	3.003995	6.70217E+12	-0.0012057	-0.0361067	3.003995
697	6053.34	575225	0.1017849	5/9/19 0:37	-0.0060127	-0.1800603	4.89531E+13	3.0023979	6.70217E+12	-0.0181456	-0.5434002	3.0023979
698	6047.02	575227	0.1035951	5/9/19 0:42	-0.0060127	-0.1800603	4.80475E+13	3.0557938	6.70217E+12	-0.0191353	-0.5730385	3.0557938
699	6061.52	575227	0.1038435	5/9/19 0:47	-0.0060127	-0.1800603	4.80475E+13	3.0631212	6.70217E+12	-0.0107209	-0.3210552	3.0631212
700	6050.01	575229	0.103384	5/9/19 0:52	-0.0060127	-0.1800603	4.81694E+13	3.0495651	6.70217E+12	0.0299497	0.0495651	3.0495651
701	6044.15	575229	0.1032838	5/9/19 0:57	-0.0060127	-0.1800603	4.81694E+13	3.0466114	6.70217E+12	-0.0040798	-0.1221764	3.0466114
702	6044.76	575229	0.1032943	5/9/19 1:02	-0.0084514	-0.2530913	4.81694E+13	3.0469188	6.70217E+12	-0.0033111	-0.0991564	3.0469188
703	6039.56	575229	0.1032054	5/9/19 1:07	-0.0084514	-0.2530913	4.81694E+13	3.0442977	6.70217E+12	-0.0031204	-0.0934456	3.0442977
704	6042.9	575231	0.1030119	5/9/19 1:12	-0.0084514	-0.2530913	4.82866E+13	3.0385906	6.70217E+12	-0.0012951	-0.0387839	3.0385906
705	6042.77	575231	0.1030817	5/9/19 1:17	-0.0084514	-0.2530913	4.82528E+13	3.0406489	6.70217E+12	-0.0005672	-0.0169857	3.0406489
706	6053.94	575233	0.1033545	5/9/19 1:22	-0.0084514	-0.2530913	4.82145E+13	3.0486951	6.70217E+12	-0.0121807	-0.3647714	3.0486951
707	6056.93	575233	0.1034055	5/9/19 1:27	-0.0084514	-0.2530913	4.82145E+13	3.0502008	6.70217E+12	-0.0149888	-0.4488646	3.0502008
708	6055.69	575233	0.1033843	5/9/19 1:32	-0.0084514	-0.2530913	4.82145E+13	3.0495763	6.70217E+12	-0.0147726	-0.4423901	3.0495763
709	6058.16	575233	0.1034265	5/9/19 1:37	-0.0084514	-0.2530913	4.82145E+13	3.0508202	6.70217E+12	-0.0157309	-0.471088	3.0508202
710	6059.3	575234	0.1038084	5/9/19 1:42	-0.0084514	-0.2530913	4.80461E+13	3.0620845	6.70217E+12	-0.0227758	-0.6820593	3.0620845
711	6061.34	575235	0.1031342	5/9/19 1:47	-0.0084514	-0.2530913	4.83765E+13	3.0421965	6.70217E+12	-0.0265233	-0.7942844	3.0421965
712	6073.89	575235	0.1033477	5/9/19 1:52	-0.0084514	-0.2530913	4.83765E+13	3.0484953	6.70217E+12	-0.0258125	-0.7729983	3.0484953
713	6070.6	575236	0.1036534	5/9/19 1:57	-0.0084514	-0.2530913	4.82077E+13	3.0575115	6.70217E+12	-0.0270166	-0.8090571	3.0575115
714	6070.34	575237	0.1039744	5/9/19 2:02	-0.009959	-0.2982389	4.80568E+13	3.0669809	6.70217E+12	-0.0241909	-0.7244368	3.0669809
715	6070.64	575238	0.1033994	5/9/19 2:07	-0.009959	-0.2982389	4.83264E+13	3.0500217	6.70217E+12	-0.0192845	-0.5775065	3.0500217

Appx13393

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
716	6066.1	575238	0.1033221	5/9/19 2:12	-0.009959	-0.2982389	4.83264E+13	3.0477407	6.70217E+12	-0.0253576	-0.7593756	3.0477407
717	6051.34	575238	0.1030707	5/9/19 2:17	-0.009959	-0.2982389	4.83264E+13	3.040325	6.70217E+12	-0.0277084	-0.8297742	3.040325
718	6061.78	575239	0.1040791	5/9/19 2:22	-0.009959	-0.2982389	4.79408E+13	3.0700698	6.70217E+12	-0.0259793	-0.7779934	3.0700698
719	6063.51	575239	0.1041088	5/9/19 2:27	-0.009959	-0.2982389	4.79408E+13	3.070946	6.70217E+12	-0.0268247	-0.8033103	3.070946
720	6069.07	575240	0.1042563	5/9/19 2:32	-0.009959	-0.2982389	4.79168E+13	3.0752977	6.70217E+12	-0.0240329	-0.7197052	3.0752977
721	6065.45	575242	0.1026794	5/9/19 2:37	-0.009959	-0.2982389	4.86237E+13	3.0287832	6.70217E+12	-0.0250565	-0.7503587	3.0287832
722	6056.78	575242	0.1025327	5/9/19 2:43	-0.009959	-0.2982389	4.86237E+13	3.0244539	6.70217E+12	-0.0183811	-0.5504527	3.0244539
723	6054.89	575242	0.1025007	5/9/19 2:48	-0.009959	-0.2982389	4.86237E+13	3.0235101	6.70217E+12	-0.0211004	-0.6318866	3.0235101
724	6052.82	575243	0.1032503	5/9/19 2:53	-0.009959	-0.2982389	4.82542E+13	3.0456209	6.70217E+12	-0.0280966	-0.8413995	3.0456209
725	6054.43	575243	0.1032777	5/9/19 2:58	-0.009959	-0.2982389	4.82542E+13	3.046431	6.70217E+12	-0.0255341	-0.7646612	3.046431
726	6054.32	575244	0.1033884	5/9/19 3:03	-0.0077595	-0.2323712	4.82017E+13	3.049695	6.70217E+12	-0.0035264	-0.1056039	3.049695
727	6068.65	575246	0.1006368	5/9/19 3:08	-0.0077595	-0.2323712	4.96368E+13	2.9685297	6.70217E+12	-0.0237767	-0.7120329	2.9685297
728	6068.33	575249	0.0992317	5/9/19 3:13	-0.0077595	-0.2323712	5.0337E+13	2.9720841	6.70217E+12	-0.0227655	-0.6817508	2.9720841
729	6063.73	575250	0.0992085	5/9/19 3:18	-0.0077595	-0.2323712	5.03106E+13	2.9263997	6.70217E+12	-0.0241747	-0.7239517	2.9263997
730	6046.71	575250	0.09893	5/9/19 3:23	-0.0077595	-0.2323712	5.03106E+13	2.9181857	6.70217E+12	-0.0246606	-0.7385028	2.9181857
731	6046.74	575251	0.099455	5/9/19 3:28	-0.0077595	-0.2323712	5.00453E+13	2.933671	6.70217E+12	-0.0228565	-0.684476	2.933671
732	6058.26	575251	0.0992865	5/9/19 3:33	-0.0077595	-0.2323712	5.02257E+13	2.9286995	6.70217E+12	-0.0237663	-0.7117215	2.9286995
733	6064.08	575252	0.0993819	5/9/19 3:38	-0.0077595	-0.2323712	5.02257E+13	2.931513	6.70217E+12	-0.0229553	-0.6874347	2.931513
734	6061.98	575252	0.0993474	5/9/19 3:43	-0.0077595	-0.2323712	5.02257E+13	2.9304978	6.70217E+12	-0.0218107	-0.6531578	2.9304978
735	6061.61	575252	0.0993414	5/9/19 3:48	-0.0077595	-0.2323712	5.02257E+13	2.9303189	6.70217E+12	-0.0228651	-0.6847335	2.9303189
736	6055.44	575252	0.0992403	5/9/19 3:53	-0.0077595	-0.2323712	5.02257E+13	2.9273362	6.70217E+12	-0.0258057	-0.7727947	2.9273362
737	6048.17	575253	0.1013391	5/9/19 3:58	-0.0077595	-0.2323712	4.91264E+13	2.9892481	6.70217E+12	-0.0222549	-0.6664601	2.9892481
738	6036.54	575253	0.1011443	5/9/19 4:03	-0.0064119	-0.192015	4.91264E+13	2.9835001	6.70217E+12	-0.0201096	-0.6022155	2.9835001
739	6032.68	575254	0.1009675	5/9/19 4:08	-0.0064119	-0.192015	4.9181E+13	2.9782848	6.70217E+12	-0.0220837	-0.6613332	2.9782848
740	6036.52	575254	0.1010317	5/9/19 4:13	-0.0064119	-0.192015	4.9181E+13	2.9801806	6.70217E+12	-0.0189611	-0.5678217	2.9801806
741	6048.03	575254	0.1012244	5/9/19 4:18	-0.0064119	-0.192015	4.9181E+13	2.985863	6.70217E+12	-0.0284786	-0.8528391	2.985863
742	6049.12	575254	0.1012426	5/9/19 4:23	-0.0064119	-0.192015	4.9181E+13	2.9864011	6.70217E+12	-0.0265276	-0.7944132	2.9864011
743	6047.1	575255	0.102742	5/9/19 4:28	-0.0064119	-0.192015	4.84471E+13	3.0306289	6.70217E+12	-0.020302	-0.6597311	3.0306289
744	6040.01	575255	0.1026215	5/9/19 4:33	-0.0064119	-0.192015	4.84471E+13	3.0270756	6.70217E+12	-0.0249572	-0.7473849	3.0270756
745	6039.32	575256	0.1033913	5/9/19 4:38	-0.0064119	-0.192015	4.80809E+13	3.0497802	6.70217E+12	-0.0273476	-0.8189695	3.0497802
746	6037.47	575256	0.1033596	5/9/19 4:43	-0.0064119	-0.192015	4.80809E+13	3.0488459	6.70217E+12	-0.0285916	-0.8562231	3.0488459
747	6046.95	575256	0.1035219	5/9/19 4:48	-0.0064119	-0.192015	4.80809E+13	3.0536332	6.70217E+12	-0.0276954	-0.8293849	3.0536332
748	6051.57	575256	0.103601	5/9/19 4:53	-0.0064119	-0.192015	4.80809E+13	3.0559662	6.70217E+12	-0.0189461	-0.5673725	3.0559662
749	6052.41	575257	0.1025409	5/9/19 4:58	-0.0064119	-0.192015	4.85847E+13	3.0246966	6.70217E+12	-0.0213883	-0.6405083	3.0246966
750	6058.73	575257	0.102648	5/9/19 5:03	-0.001004	-0.0300665	4.85847E+13	3.027855	6.70217E+12	-0.0284985	-0.8534351	3.027855
751	6054.8	575258	0.1018989	5/9/19 5:08	-0.001004	-0.0300665	4.89101E+13	3.0057607	6.70217E+12	-0.0254371	-0.6175564	3.0057607
752	6051.38	575258	0.1018414	5/9/19 5:13	-0.001004	-0.0300665	4.89101E+13	3.0040629	6.70217E+12	-0.0222254	-0.6655766	3.0040629
753	6048.3	575258	0.1017896	5/9/19 5:18	-0.001004	-0.0300665	4.89101E+13	3.0025339	6.70217E+12	-0.0245437	-0.735002	3.0025339
754	6051.14	575258	0.1018373	5/9/19 5:23	-0.001004	-0.0300665	4.89101E+13	3.0039438	6.70217E+12	-0.0272051	-0.8147021	3.0039438
755	6057.19	575258	0.1019392	5/9/19 5:28	-0.001004	-0.0300665	4.89101E+13	3.0069471	6.70217E+12	-0.026005	-0.7787631	3.0069471
756	6059.15	575259	0.1040181	5/9/19 5:33	-0.001004	-0.0300665	4.79481E+13	3.0682693	6.70217E+12	-0.0148258	-0.4439833	3.0682693
757	6061.72	575260	0.1037848	5/9/19 5:38	-0.001004	-0.0300665	4.80762E+13	3.0613901	6.70217E+12	-0.0244808	-0.7331184	3.0613901
758	6057.72	575260	0.1037164	5/9/19 5:43	-0.001004	-0.0300665	4.80762E+13	3.05937	6.70217E+12	-0.0243887	-0.7303603	3.05937
759	6057.7	575260	0.103716	5/9/19 5:48	-0.001004	-0.0300665	4.80762E+13	3.0593599	6.70217E+12	-0.0198852	-0.5954955	3.0593599
760	6047.35	575260	0.1035388	5/9/19 5:53	-0.001004	-0.0300665	4.80762E+13	3.0541327	6.70217E+12	-0.0198875	-0.5955643	3.0541327
761	6044.98	575261	0.1039808	5/9/19 5:58	-0.001004	-0.0300665	4.78531E+13	3.0671699	6.70217E+12	-0.0198792	-0.5953158	3.0671699
762	6040.28	575262	0.1043375	5/9/19 6:03	0.0098991	0.2991402	4.76524E+13	3.077692	6.70217E+12	-0.0173633	-0.519973	3.077692
763	6034.01	575263	0.1041918	5/9/19 6:08	0.0098991	0.2991402	4.76695E+13	3.0733946	6.70217E+12	-0.018275	-0.5472753	3.0733946
764	6034.26	575263	0.1041961	5/9/19 6:13	0.0098991	0.2991402	4.76695E+13	3.0735219	6.70217E+12	-0.0079803	-0.2389834	3.0735219
765	6037.47	575263	0.1042516	5/9/19 6:18	0.0098991	0.2991402	4.76695E+13	3.0751569	6.70217E+12	-0.0028126	-0.084228	3.0751569
766	6035.61	575264	0.1036859	5/9/19 6:23	0.0098991	0.2991402	4.79148E+13	3.0584702	6.70217E+12	-0.0009188	-0.027515	3.0584702

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
767	6032.26	575264	0.1036283	5/9/19 6:28	0.009891	0.2991402	4.79148E+13	3.0567726	6.70217E+12	-0.0017763	-0.0531943	3.0567726
768	6035.08	575266	0.1012996	5/9/19 6:33	0.009891	0.2991402	4.90392E+13	2.988081	6.70217E+12	-0.0029613	-0.0886811	2.988081
769	6038.27	575266	0.1013531	5/9/19 6:38	0.009891	0.2991402	4.90392E+13	2.9896604	6.70217E+12	-0.0017698	-0.0529996	2.9896604
770	6038.35	575267	0.1004336	5/9/19 6:43	0.009891	0.2991402	4.94889E+13	2.9625364	6.70217E+12	-0.0040978	-0.1227155	2.9625364
771	6041.06	575267	0.1004787	5/9/19 6:48	0.009891	0.2991402	4.94889E+13	2.963866	6.70217E+12	-0.0041121	-0.1231437	2.963866
772	6032.6	575269	0.1003466	5/9/19 6:53	0.009891	0.2991402	4.94846E+13	2.9599697	6.70217E+12	-0.0017941	-0.0537273	2.9599697
773	6038.62	575269	0.1004467	5/9/19 6:58	0.009891	0.2991402	4.94846E+13	2.9629235	6.70217E+12	-0.0169009	-0.5061256	2.9629235
774	6023.18	575269	0.1001899	5/9/19 7:03	0.015734	0.4711809	4.94846E+13	2.9553477	6.70217E+12	-0.0127165	-0.3808168	2.9553477
775	6018.06	575270	0.100393	5/9/19 7:08	0.015734	0.4711809	4.93426E+13	2.9613379	6.70217E+12	-0.0057831	-0.1731846	2.9613379
776	6028.56	575270	0.1005681	5/9/19 7:13	0.015734	0.4711809	4.93426E+13	2.9665047	6.70217E+12	-0.0011814	-0.035379	2.9665047
777	6023.05	575271	0.1000255	5/9/19 7:18	0.015734	0.4711809	4.95649E+13	2.9505	6.70217E+12	-0.0018878	-0.0565333	2.9505
778	6002.6	575271	0.0996859	5/9/19 7:23	0.015734	0.4711809	4.95649E+13	2.9404822	6.70217E+12	-0.0019315	-0.057842	2.9404822
779	6004.55	575271	0.0997183	5/9/19 7:28	0.015734	0.4711809	4.95649E+13	2.9414374	6.70217E+12	-0.0032781	-0.0981682	2.9414374
780	6023.65	575271	0.1000355	5/9/19 7:33	0.015734	0.4711809	4.95649E+13	2.9507939	6.70217E+12	-0.0044118	-0.1321187	2.9507939
781	6022.52	575272	0.1006869	5/9/19 7:38	0.015734	0.4711809	4.9235E+13	2.9700094	6.70217E+12	-0.0183056	-0.5481917	2.9700094
782	6016.76	575272	0.1005906	5/9/19 7:43	0.015734	0.4711809	4.9235E+13	2.9671688	6.70217E+12	-0.004465	-0.1337119	2.9671688
783	6007.87	575272	0.100442	5/9/19 7:48	0.015734	0.4711809	4.9235E+13	2.9627847	6.70217E+12	-0.0011594	-0.0347202	2.9627847
784	5998.51	575272	0.1002855	5/9/19 7:53	0.015734	0.4711809	4.9235E+13	2.9581688	6.70217E+12	-0.0019525	-0.0584709	2.9581688
785	6004.67	575273	0.101848	5/9/19 7:58	0.015734	0.4711809	4.85294E+13	3.0042572	6.70217E+12	-0.016446	-0.4925029	3.0042572
786	5986.82	575273	0.1015452	5/9/19 8:03	0.0212738	0.6370794	4.85294E+13	2.9953265	6.70217E+12	-0.0226577	-0.6785226	2.9953265
787	5966.01	575273	0.1011922	5/9/19 8:08	0.0212738	0.6370794	4.85294E+13	2.9849149	6.70217E+12	-0.0040549	-0.1214307	2.9849149
788	5975.72	575273	0.1013569	5/9/19 8:13	0.0212738	0.6370794	4.85294E+13	2.989773	6.70217E+12	0.008876	0.266154	2.989773
789	5974.19	575273	0.101331	5/9/19 8:18	0.0212738	0.6370794	4.85294E+13	2.9890075	6.70217E+12	0.0059397	0.1778742	2.9890075
790	5989.16	575275	0.1021458	5/9/19 8:23	0.0212738	0.6370794	4.8263E+13	3.0130416	6.70217E+12	0.005809	0.1739602	3.0130416
791	5989.1	575275	0.1021448	5/9/19 8:28	0.0212738	0.6370794	4.8263E+13	3.0130114	6.70217E+12	0.001868	0.005594	3.0130114
792	5990.38	575275	0.1021666	5/9/19 8:33	0.0212738	0.6370794	4.8263E+13	3.0136553	6.70217E+12	0.0010001	0.0299497	3.0136553
793	5999.35	575275	0.1023196	5/9/19 8:38	0.0212738	0.6370794	4.8263E+13	3.018168	6.70217E+12	-0.0026113	-0.0781997	3.018168
794	6009.99	575276	0.1040749	5/9/19 8:43	0.0212738	0.6370794	4.75331E+13	3.0699468	6.70217E+12	0.0003791	0.0113528	3.0699468
795	6015.23	575276	0.1041657	5/9/19 8:48	0.0212738	0.6370794	4.75331E+13	3.0726234	6.70217E+12	0.0045541	0.1363801	3.0726234
796	6006.59	575276	0.1040161	5/9/19 8:53	0.0212738	0.6370794	4.75331E+13	3.0682101	6.70217E+12	0.0020439	0.061208	3.0682101
797	6012.06	575276	0.1041108	5/9/19 8:58	0.0212738	0.6370794	4.75331E+13	3.0710042	6.70217E+12	0.0057903	0.1734002	3.0710042
798	5997.24	575276	0.1038541	5/9/19 9:03	0.021087	0.6314854	4.75331E+13	3.063434	6.70217E+12	0.0154138	0.4615919	3.063434
799	6009.31	575277	0.1048522	5/9/19 9:08	0.021087	0.6314854	4.71754E+13	3.0928732	6.70217E+12	0.007881	0.2360097	3.0928732
800	6014.99	575277	0.1049513	5/9/19 9:13	0.021087	0.6314854	4.71754E+13	3.0957966	6.70217E+12	0.0015859	0.0474924	3.0957966
801	6015.14	575277	0.1049539	5/9/19 9:18	0.021087	0.6314854	4.71754E+13	3.0958738	6.70217E+12	0.0110437	0.330722	3.0958738
802	6010.98	575277	0.1048813	5/9/19 9:23	0.021087	0.6314854	4.71754E+13	3.0937327	6.70217E+12	0.0082541	0.2471828	3.0937327
803	6015.8	575279	0.1061867	5/9/19 9:28	0.021087	0.6314854	4.66328E+13	3.13224	6.70217E+12	0.0098213	0.2941152	3.13224
804	6008.98	575281	0.1036694	5/9/19 9:33	0.021087	0.6314854	4.7711E+13	3.0579847	6.70217E+12	0.0137284	0.4111198	3.0579847
805	6005.02	575281	0.1036011	5/9/19 9:38	0.021087	0.6314854	4.7711E+13	3.0559695	6.70217E+12	0.0148862	0.4457921	3.0559695
806	5997.86	575281	0.1033913	5/9/19 9:43	0.021087	0.6314854	4.7711E+13	3.0497812	6.70217E+12	0.019156	0.5736588	3.0497812
807	6001.7	575281	0.1035438	5/9/19 9:48	0.021087	0.6314854	4.7711E+13	3.0542799	6.70217E+12	0.0155476	0.4655983	3.0542799
808	5996.77	575281	0.1034587	5/9/19 9:53	0.021087	0.6314854	4.7711E+13	3.051771	6.70217E+12	0.0127646	0.3822572	3.051771
809	5997.26	575281	0.1034672	5/9/19 9:58	0.021087	0.6314854	4.7711E+13	3.0520204	6.70217E+12	0.01036	0.3102475	3.0520204
810	5995.19	575281	0.1034315	5/9/19 10:03	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	-0.001443	-0.0043213	3.050967
811	5995.19	575281	0.1034315	5/9/19 10:08	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	0.0134747	0.4035223	3.050967
812	5978.15	575281	0.1031375	5/9/19 10:13	0.0217322	0.6508069	4.7711E+13	3.0422953	6.70217E+12	0.0153319	0.4591393	3.0422953
813	5989.44	575281	0.1033323	5/9/19 10:18	0.0217322	0.6508069	4.7711E+13	3.0480408	6.70217E+12	0.016155	0.4837884	3.0480408
814	6001.74	575282	0.1070813	5/9/19 10:23	0.0217322	0.6508069	4.61352E+13	3.158626	6.70217E+12	0.0174376	0.522198	3.158626
815	6010.06	575282	0.1072297	5/9/19 10:28	0.0217322	0.6508069	4.61352E+13	3.1630047	6.70217E+12	0.0234385	0.7019049	3.1630047
816	6009.71	575283	0.1079065	5/9/19 10:33	0.0217322	0.6508069	4.58431E+13	3.1829698	6.70217E+12	0.0203173	0.6084354	3.1829698
817	5995.73	575283	0.1076555	5/9/19 10:38	0.0217322	0.6508069	4.58431E+13	3.1755655	6.70217E+12	0.019624	0.5876734	3.1755655

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
818	6000.73	575284	0.1065399	5/9/19 10:43	0.0217322	0.6508069	4.63618E+13	3.142657	6.70217E+12	0.0143614	0.4300761	3.142657
819	6007.62	575284	0.1066622	5/9/19 10:48	0.0217322	0.6508069	4.63618E+13	3.1462654	6.70217E+12	0.0184275	0.5518422	3.1462654
820	6006.48	575284	0.1066642	5/9/19 10:53	0.0217322	0.6508069	4.63618E+13	3.1456683	6.70217E+12	0.0226632	0.6786873	3.1456683
821	5999.23	575284	0.1065133	5/9/19 10:58	0.0217322	0.6508069	4.63618E+13	3.1418714	6.70217E+12	0.2007318	6.0112483	6.0112483
822	6004.02	575284	0.1065983	5/9/19 11:03	0.0217961	0.6527705	4.63618E+13	3.14438	6.70217E+12	0.0307427	0.9206414	3.14438
823	6000.99	575284	0.1065445	5/9/19 11:08	0.0217961	0.6527705	4.63618E+13	3.1427931	6.70217E+12	0.0293874	0.8800547	3.1427931
824	6003.38	575284	0.1065869	5/9/19 11:13	0.0217961	0.6527705	4.63618E+13	3.1440448	6.70217E+12	0.0349274	1.0459592	3.1440448
825	6014.88	575284	0.1067911	5/9/19 11:18	0.0217961	0.6527705	4.63618E+13	3.1500675	6.70217E+12	0.0260766	0.7809072	3.1500675
826	6026.81	575284	0.1070029	5/9/19 11:24	0.0217961	0.6527705	4.63618E+13	3.1563154	6.70217E+12	0.0118225	0.3540445	3.1563154

CONFIDENTIAL

exelon4_modeling_05092019

BB100000014

Message

From: Austin Storms [austin@bearbox.io]
on behalf of Austin Storms <austin@bearbox.io> [austin@bearbox.io]
Sent: 5/6/2019 4:51:10 PM
To: Todd Garland [todd@buysellads.com]
Subject: Re: Fwd: EXELON DATA MODELING DUMP 2

Hey Todd,

Same! Great talking to you as well and thanks for the advice on not selling myself short - I've been thinking about it since our conversation.

I've got two different models for breakeven - the sheet I sent you is just the breakeven cost to turn_off your miners (where mining_revenue = electricity_cost_opex) in 5-min increments (see below).

```
def get_breakeven_USD_per_kWh(miner_hashrate, hashrate, BTC_price, kW_load):
    try:
        breakeven = ((miner_hashrate / hashrate) * (block_reward * 144) * (BTC_price)) / (kW_load * 24)
        return breakeven
    except Exception as e:
        print("Error: " + str(e))
```

There's another model that amortizes the cost of the miners (S9s or equivalent generation) over a 12-month useful life with \$0 resale value - but it wasn't done by the time I got to Boston. I just finished converting the scripts from local SQLite3 dbs to PostgreSQL this morning and will send over some data when it's run for a day or two if you're interested.

```
def get_breakeven_USD_per_kWh(miner_hashrate, hashrate, BTC_price, kW_load, miner_cost,
    expected_blocks_daily):
    try:
        revenue_5min = ((miner_hashrate / hashrate) * (block_reward * expected_blocks_daily) *
        (BTC_price)) / (12*24)
        #print(revenue_5min)

        amortized_5min_cost = ((miner_cost * 272) / (12 * 24 * 30.5 * 12))
        #print(amortized_5min_cost)

        actual_5min_revenue = revenue_5min - amortized_5min_cost
        #print(actual_5min_revenue)

        breakeven = actual_5min_revenue / (kW_load/12)

        return breakeven
    except Exception as e:
        print("Error: " + str(e))
```

So I'm not sure that I need to get the PDUs UL certified themselves - they aren't manufactured, they're simply assembled out of existing components. I'm waiting to hear back from them on field-testing requirements and will let you know when I do.

Talk soon!

A

Austin M. Storms
 BearBox, LLC
 611 O' Keefe Avenue

Bearbox v Lanicum
 Trial Exhibit
TX919

New Orleans, LA 70113
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

On Mon, May 6, 2019 at 3:17 PM Todd Garland <todd@buysellads.com> wrote:

Hi Austin,

I hope you had a nice time in Boston last week. It was great to put a face to the name and meet in person.

Question about the sheets... what do you factor into the "breakeven_mining_cost"? Is it all of the costs (hardware, labor, etc etc) or something else with less subjectivity to it (e.g. the amortization period of the hardware is definitely subjective)?

Do you have a sense what it would take cost wise to get your PDU's certified?

- Todd

Austin Storms wrote on 5/3/19 3:51 PM:

See attached.

Begin forwarded message:

From: Austin Storms <austin@bearbox.io>
Date: May 3, 2019 at 12:15:58 PM EDT
To: Austin Storms <austin@bearbox.io>
Cc: Ben Hakes <ben@paretoadvisors.com>
Subject: EXELON DATA MODELING DUMP 2

See attached.

Austin M. Storms
BearBox, LLC
611 O' Keefe Avenue
New Orleans, LA 70113
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

Message

From: Austin Storms [austin@bearbox.io]
on behalf of Austin Storms <austin@bearbox.io> [austin@bearbox.io]
Sent: 5/3/2019 2:51:35 PM
To: todd@buysellads.com
Subject: Fwd: EXELON DATA MODELING DUMP 2
Attachments: EXELON4.csv; ATT00002.bin; EXELON7_8.csv; ATT00004.bin; EXELON5_6.csv; ATT00006.bin; EXELON_HPW1.csv; ATT00008.bin; EXELON10_11.csv; ATT00010.bin; EXELON9.csv; ATT00012.bin

See attached.

Begin forwarded message:

From: Austin Storms <austin@bearbox.io>
Date: May 3, 2019 at 12:15:58 PM EDT
To: Austin Storms <austin@bearbox.io>
Cc: Ben Hakes <ben@paretoadvisors.com>
Subject: EXELON DATA MODELING DUMP 2

See attached.

Austin M. Storms
BearBox, LLC
611 O' Keefe Avenue
New Orleans, LA 70113
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

Bearbox v Lancium Trial Exhibit TX920

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
2	17:54.4	574204	6.35303E+12	5.38327E+13	5320.85	0.0051274	0.0037112	0.0737773	0.1586418	0.1148245	2.2484294	2.2484294
3	22:57.3	574204	6.35303E+12	5.38327E+13	5320.01	0.0051274	0.0047409	0.0737656	0.1586418	0.1466834	2.2480744	2.2480744
4	28:00.5	574204	6.35303E+12	5.38327E+13	5319.51	0.0051274	0.0044381	0.0737587	0.1586418	0.1373148	2.2478631	2.2478631
5	33:03.6	574204	6.35303E+12	5.38327E+13	5321.94	0.0051274	0.0035711	0.0737924	0.1586418	0.1104898	2.24889	2.24889
6	38:06.6	574205	6.35303E+12	5.30839E+13	5321.95	0.0051274	0.0020195	0.0748335	0.1586418	0.0624833	2.2806172	2.2806172
7	43:09.6	574205	6.35303E+12	5.30839E+13	5326.19	0.0051274	0.0006489	0.0748931	0.1586418	0.020077	2.2824342	2.2824342
8	48:12.6	574206	6.35303E+12	5.44532E+13	5326.23	0.0051274	0.0036433	0.0730105	0.1586418	0.1127237	2.2250598	2.2250598
9	53:15.7	574206	6.35303E+12	5.44532E+13	5327.84	0.0051274	0.0056932	0.0730325	0.1586418	0.1761476	2.2257324	2.2257324
10	58:18.9	574207	6.35303E+12	5.39845E+13	5327.8	0.0051274	-0.0005791	0.073666	0.1586418	-0.0179174	2.2450369	2.2450369
11	03:21.8	574207	6.35303E+12	5.39845E+13	5327.2	0.0003049	0.0011538	0.0736577	0.0094336	0.0356986	2.244784	2.244784
12	08:24.9	574208	6.35303E+12	5.34662E+13	5325.01	0.0003049	-0.0046781	0.0743412	0.0094336	-0.1450189	2.2656139	2.2656139
13	13:28.6	574209	6.35303E+12	5.33477E+13	5325.01	0.0003049	-0.009641	0.0745063	0.0094336	-0.2982925	2.2706452	2.2706452
14	18:31.5	574209	6.35303E+12	5.33477E+13	5321.01	0.0003049	-0.0003526	0.0744503	0.0094336	-0.0109094	2.2689395	2.2689395
15	23:35.0	574210	6.35303E+12	5.36221E+13	5327.95	0.0003049	0.0001515	0.074166	0.0094336	-0.0046874	2.2602762	2.2602762
16	28:38.3	574212	6.35303E+12	5.54528E+13	5325.19	0.0003049	-0.019323	0.0716803	0.0094336	-0.5978598	2.184522	2.184522
17	33:41.4	574212	6.35303E+12	5.54528E+13	5323.36	0.0003049	-0.0316161	0.0716557	0.0094336	-0.9782021	2.1837713	2.1837713
18	38:44.4	574215	6.35303E+12	5.58834E+13	5323.1	0.0003049	-0.0307121	0.0711001	0.0094336	-0.9502324	2.1668382	2.1668382
19	43:47.3	574215	6.35303E+12	5.58834E+13	5323.1	0.0003049	-0.0298462	0.0711001	0.0094336	-0.9234414	2.1668382	2.1668382
20	48:50.3	574215	6.35303E+12	5.58834E+13	5325.88	0.0003049	-0.0268598	0.0711372	0.0094336	-0.8310422	2.1679698	2.1679698
21	53:53.3	574215	6.35303E+12	5.58834E+13	5326.72	0.0003049	-0.0306503	0.0711484	0.0094336	-0.9483203	2.1683117	2.1683117
22	58:56.4	574216	6.35303E+12	5.54406E+13	5326.69	0.0003049	-0.0316255	0.0717163	0.0094336	-0.978493	2.1856184	2.1856184
23	03:59.3	574216	6.35303E+12	5.54406E+13	5330.34	-0.0001867	-0.0309598	0.0717654	-0.0057765	-0.9578962	2.187116	2.187116
24	09:02.8	574219	6.35303E+12	5.59245E+13	5330.78	-0.0001867	-0.0034559	0.0711504	-0.0057765	-0.1069255	2.1683719	2.1683719
25	14:05.9	574220	6.35303E+12	5.59914E+13	5329.45	-0.0001867	-0.0195392	0.0710476	-0.0057765	-0.6045428	2.1652392	2.1652392
26	19:08.9	574220	6.35303E+12	5.59914E+13	5343.74	-0.0001867	-0.0179458	0.0712381	-0.0057765	-0.5552431	2.1710449	2.1710449
27	24:11.9	574223	6.35303E+12	5.60912E+13	5334.1	-0.0001867	-0.027899	0.0709831	-0.0057765	-0.8631951	2.1632744	2.1632744
28	29:14.9	574226	6.35303E+12	5.60441E+13	5330.7	-0.0001867	-0.030306	0.0709974	-0.0057765	-0.9376676	2.1637101	2.1637101
29	34:17.9	574226	6.35303E+12	5.60441E+13	5333.77	-0.0001867	-0.0264455	0.0710383	-0.0057765	-0.8182238	2.1649562	2.1649562
30	39:21.0	574227	6.35303E+12	5.56725E+13	5332.07	-0.0001867	-0.0197591	0.0714897	-0.0057765	-0.6113466	2.1787132	2.1787132
31	44:24.0	574227	6.35303E+12	5.56725E+13	5339.99	-0.0001867	-0.0202167	0.0715959	-0.0057765	-0.6255047	2.1819493	2.1819493
32	49:27.4	574228	6.35303E+12	5.52451E+13	5343.15	-0.0001867	-0.0298226	0.0721925	-0.0057765	-0.6133112	2.2001303	2.2001303
33	54:30.5	574229	6.35303E+12	5.5892E+13	5338.61	-0.0001867	-0.0294808	0.0712963	-0.0057765	-0.912136	2.1728179	2.1728179
34	59:33.7	574229	6.35303E+12	5.5892E+13	5336.4	-0.0001867	-0.0238324	0.0712668	-0.0057765	-0.7373745	2.1719184	2.1719184
35	04:36.7	574229	6.35303E+12	5.5892E+13	5340.73	-0.0002365	-0.0191566	0.0713246	-0.0073173	-0.5927052	2.1736808	2.1736808
36	09:39.8	574229	6.35303E+12	5.5892E+13	5341.69	-0.0002365	-0.0309356	0.0713374	-0.0073173	-0.9571475	2.1740715	2.1740715
37	14:43.1	574230	6.35303E+12	5.53347E+13	5347.99	-0.0002365	-0.030382	0.0721408	-0.0073173	-0.9400191	2.1985565	2.1985565
38	19:46.4	574230	6.35303E+12	5.53347E+13	5348.14	-0.0002365	-0.0302146	0.0721428	-0.0073173	-0.9438497	2.1986182	2.1986182
39	24:49.4	574231	6.35303E+12	5.49411E+13	5341.24	-0.0002365	-0.0278795	0.072566	-0.0073173	-0.8625917	2.211515	2.211515
40	29:53.0	574231	6.35303E+12	5.49411E+13	5342.72	-0.0002365	-0.0280598	0.0725861	-0.0073173	-0.8681702	2.2121278	2.2121278
41	34:56.1	574232	6.35303E+12	5.47061E+13	5349.99	-0.0002365	-0.0264476	0.0729971	-0.0073173	-0.8182887	2.2246529	2.2246529
42	39:59.3	574232	6.35303E+12	5.47061E+13	5346.06	-0.0002365	-0.0271937	0.0729435	-0.0073173	-0.8413731	2.2230187	2.2230187
43	45:02.9	574232	6.35303E+12	5.47061E+13	5350.69	-0.0002365	-0.0271939	0.0730067	-0.0073173	-0.8413793	2.224944	2.224944
44	50:06.0	574232	6.35303E+12	5.47061E+13	5358.36	-0.0002365	-0.0287285	0.0731113	-0.0073173	-0.8888598	2.2281334	2.2281334
45	55:09.1	574232	6.35303E+12	5.47061E+13	5358.38	-0.0002365	-0.0279997	0.0731116	-0.0073173	-0.8663107	2.2281417	2.2281417
46	00:12.7	574232	6.35303E+12	5.47061E+13	5374.99	0.0021778	-0.0258886	0.0733382	0.0673811	-0.8009933	2.2350485	2.2350485
47	05:15.7	574233	6.35303E+12	5.35475E+13	5380.56	0.0021778	-0.0030487	0.0750026	0.0673811	-0.0943268	2.2857722	2.2857722
48	10:18.8	574233	6.35303E+12	5.35475E+13	5358.81	0.0021778	-0.0011696	0.0746994	0.0673811	-0.0361874	2.2765324	2.2765324
49	15:21.8	574233	6.35303E+12	5.35475E+13	5362.05	0.0021778	-0.0011696	0.0747446	0.0673811	-0.0361874	2.2779088	2.2779088
50	20:24.8	574233	6.35303E+12	5.35475E+13	5360.02	0.0021778	-0.0182287	0.0747163	0.0673811	-0.563996	2.2770464	2.2770464
51	25:28.4	574234	6.35303E+12	5.31615E+13	5359.43	0.0021778	-0.0150284	0.0752505	0.0673811	-0.4649787	2.2933275	2.2933275
52	30:31.4	574234	6.35303E+12	5.31615E+13	5349.43	0.0021778	-0.0150284	0.0751101	0.0673811	-0.4649787	2.2890484	2.2890484
53	35:34.9	574234	6.35303E+12	5.31615E+13	5344.78	0.0021778	-0.0164614	0.0750448	0.0673811	-0.5093157	2.2870587	2.2870587
54	40:37.9	574236	6.35303E+12	5.29706E+13	5350.2	0.0021778	-0.0316425	0.0753917	0.0673811	-0.9790189	2.2976295	2.2976295
55	45:40.9	574237	6.35303E+12	5.26741E+13	5349.03	0.0021778	-0.0303346	0.0757995	0.0673811	-0.9385525	2.3100592	2.3100592
56	50:43.9	574238	6.35303E+12	5.2719E+13	5355.31	0.0021778	-0.0059234	0.0758238	0.0673811	-0.18327	2.3107995	2.3107995
57	55:46.8	574238	6.35303E+12	5.2719E+13	5349.01	0.0021778	-0.0018265	0.0757346	0.0673811	-0.0565119	2.308081	2.308081
58	00:49.8	574239	6.35303E+12	5.28168E+13	5350.18	0.011704	-0.0315837	0.0756109	0.3621218	-0.9771997	2.3043114	2.3043114
59	05:52.7	574239	6.35303E+12	5.28168E+13	5349.09	0.011704	-0.0304342	0.0755955	0.3621218	-0.9416341	2.303842	2.303842
60	10:55.6	574240	6.35303E+12	5.25658E+13	5348.27	0.011704	-0.0002699	0.0759448	0.3621218	-0.0083507	2.314487	2.314487
61	15:58.4	574243	6.35303E+12	5.35108E+13	5354.35	0.011704	0.0001633	0.0746885	0.3621218	0.0053619	2.2762	2.2762
62	21:01.3	574245	6.35303E+12	5.38531E+13	5358.66	0.011704	0.0007385	0.0742735	0.3621218	0.0228492	2.2635505	2.2635505
63	26:04.2	574246	6.35303E+12	5.41667E+13	5357.51	0.011704	-0.0035407	0.0738276	0.3621218	-0.1095493	2.2499632	2.2499632
64	31:07.4	574246	6.35303E+12	5.41667E+13	5361.77	0.011704	-0.0018346	0.0738863	0.3621218	-0.0567625	2.2517522	2.2517522
65	36:10.5	574246	6.35303E+12	5.41667E+13	5361.98	0.011704	0.0045643	0.0738892	0.3621218	0.1412163	2.2518404	2.2518404
66	41:13.6	574246	6.35303E+12	5.41667E+13	5366.22	0.011704	-0.0158522	0.0739476	0.3621218	-0.4905011	2.2536211	2.2536211
67	46:16.7	574248	6.35303E+12	5.41479E+13	5365.01	0.011704	-0.0018765	0.0739567	0.3621218	-0.0580589	2.2538956	2.2538956
68	51:19.6	574251	6.35303E+12	5.52479E+13	5360.99	0.011704	0.001301	0.0724298	0.3621218	0.0402529	2.2073645	2.2073645
69	56:22.6	574251	6.35303E+12	5.52479E+13	5356.1	0.011704	0.0012559	0.0723638	0.3621218	0.0388575	2.2053511	2.2053511
70	01:25.7	574252	6.35303E+12	5.50584E+13	5358.27	0.0165726	0.0046048	0.0726423	0.5127562			

1	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_UMP	real_time_UMP	breakeven_mining_cost	day_ahead_UMP_rev	real_time_UMP_rev	mining_rev	realized_rev
96	12:51.9	574269	6.35303E+12	5.58958E+13	5350.76	0.0186731	0.008065	0.0714536	0.5777457	0.2495311	2.1776143	2.1776143
97	17:54.9	574270	6.35303E+12	5.6144E+13	5352.52	0.0186731	0.0075466	0.0711611	0.5777457	0.2334918	2.1686995	2.1686995
98	22:57.9	574271	6.35303E+12	5.6095E+13	5356.14	0.0186731	0.007405	0.0712715	0.5777457	0.2291107	2.172064	2.172064
99	28:01.0	574271	6.35303E+12	5.6095E+13	5350.02	0.0186731	0.0072809	0.0711901	0.5777457	0.225271	2.1695821	2.1695821
100	33:04.1	574271	6.35303E+12	5.6095E+13	5354.6	0.0186731	0.0074885	0.071251	0.5777457	0.2316942	2.1714394	2.1714394
101	38:07.2	574273	6.35303E+12	5.53104E+13	5354.48	0.0186731	0.0079015	0.0722601	0.5777457	0.2444724	2.2021917	2.2021917
102	43:10.6	574274	6.35303E+12	5.53441E+13	5355.03	0.0186731	0.0099941	0.0722236	0.5777457	0.3092175	2.2010786	2.2010786
103	48:13.7	574274	6.35303E+12	5.53441E+13	5354.14	0.0186731	0.0113173	0.0722116	0.5777457	0.3501573	2.2007128	2.2007128
104	53:17.4	574274	6.35303E+12	5.53441E+13	5355.18	0.0186731	0.0164817	0.0722256	0.5777457	0.5099438	2.2011403	2.2011403
105	58:20.3	574274	6.35303E+12	5.53441E+13	5369.19	0.0186731	0.0139726	0.0724146	0.5777457	0.4292182	2.2068988	2.2068988
106	03:23.5	574274	6.35303E+12	5.53441E+13	5370.66	0.0212675	0.0081036	0.0724344	0.6580165	0.2816654	2.207503	2.207503
107	08:26.5	574274	6.35303E+12	5.53441E+13	5369.11	0.0212675	0.0082747	0.0724135	0.6580165	0.2560192	2.2068659	2.2068659
108	13:29.7	574274	6.35303E+12	5.53441E+13	5363.09	0.0212675	0.0151147	0.0723323	0.6580165	0.4676488	2.2043915	2.2043915
109	18:32.7	574275	6.35303E+12	5.36343E+13	5365.75	0.0212675	0.0155968	0.0746751	0.6580165	0.482565	2.2757902	2.2757902
110	23:35.6	574275	6.35303E+12	5.36343E+13	5369.99	0.0212675	0.0157182	0.0747341	0.6580165	0.4863211	2.2775885	2.2775885
111	28:38.4	574275	6.35303E+12	5.36343E+13	5367.99	0.0212675	0.0155447	0.0747063	0.6580165	0.480953	2.2767402	2.2767402
112	33:41.8	574277	6.35303E+12	5.50501E+13	5371.77	0.0212675	0.0198338	0.0728363	0.6580165	0.6136578	2.2197521	2.2197521
113	38:45.1	574279	6.35303E+12	5.54528E+13	5384.78	0.0212675	0.0190493	0.0724824	0.6580165	0.5893853	2.2089672	2.2089672
114	43:48.1	574281	6.35303E+12	5.67946E+13	5379.99	0.0212675	0.0170259	0.0707071	0.6580165	0.5267813	2.1548622	2.1548622
115	48:51.0	574281	6.35303E+12	5.67946E+13	5377.85	0.0212675	0.0169016	0.070679	0.6580165	0.5229355	2.154005	2.154005
116	53:54.3	574282	6.35303E+12	5.6096E+13	5375.53	0.0212675	0.0131463	0.0715283	0.6580165	0.4067465	2.1798898	2.1798898
117	58:57.4	574282	6.35303E+12	5.6096E+13	5379.99	0.0212675	0.0178311	0.0715877	0.6580165	0.5516942	2.1816984	2.1816984
118	04:00.6	574283	6.35303E+12	5.56063E+13	5387.53	0.0232187	0.0178063	0.0723193	0.7183866	0.5509269	2.2039945	2.2039945
119	09:05.0	574283	6.35303E+12	5.56063E+13	5405.85	0.0232187	0.0198195	0.0725652	0.7183866	0.6132153	2.211489	2.211489
120	14:08.3	574283	6.35303E+12	5.56063E+13	5409.86	0.0232187	0.019659	0.072619	0.7183866	0.6082495	2.2131295	2.2131295
121	19:11.6	574284	6.35303E+12	5.64188E+13	5401.19	0.0232187	0.020979	0.0714585	0.7183866	0.6490903	2.1777626	2.1777626
122	24:14.7	574284	6.35303E+12	5.64188E+13	5401.3	0.0232187	0.0205853	0.07146	0.7183866	0.6360738	2.1778069	2.1778069
123	29:17.8	574285	6.35303E+12	5.57835E+13	5408.19	0.0232187	0.020525	0.072366	0.7183866	0.6204244	2.2054203	2.2054203
124	34:20.7	574285	6.35303E+12	5.57835E+13	5406.02	0.0232187	0.0204614	0.072337	0.7183866	0.6330757	2.2045354	2.2045354
125	39:23.6	574285	6.35303E+12	5.57835E+13	5400.59	0.0232187	0.0195542	0.0722643	0.7183866	0.6050069	2.202321	2.202321
126	44:26.7	574285	6.35303E+12	5.57835E+13	5401.93	0.0232187	0.0203561	0.0722823	0.7183866	0.6298177	2.2028675	2.2028675
127	49:29.7	574285	6.35303E+12	5.57835E+13	5404.01	0.0232187	0.0200873	0.0723101	0.7183866	0.6215011	2.2037157	2.2037157
128	54:32.7	574285	6.35303E+12	5.57835E+13	5401.27	0.0232187	0.0203132	0.0722734	0.7183866	0.6284904	2.2025983	2.2025983
129	59:36.0	574285	6.35303E+12	5.57835E+13	5405.56	0.0232187	0.0202868	0.0723309	0.7183866	0.6276736	2.2043478	2.2043478
130	04:39.2	574285	6.35303E+12	5.57835E+13	5407.94	0.0243161	0.0203594	0.0723627	0.7523401	0.6299198	2.2053183	2.2053183
131	09:42.2	574286	6.35303E+12	5.36818E+13	5415.78	0.0243161	0.0205197	0.0735047	0.7523401	0.6348795	2.2949778	2.2949778
132	14:45.4	574287	6.35303E+12	5.50908E+13	5406.57	0.0243161	0.0204524	0.0732539	0.7523401	0.6327973	2.2324797	2.2324797
133	19:48.6	574287	6.35303E+12	5.50908E+13	5390.94	0.0243161	0.0204571	0.0730422	0.7523401	0.6329427	2.2260258	2.2260258
134	24:51.7	574288	6.35303E+12	5.6446E+13	5374.99	0.0243161	0.0204895	0.0710776	0.7523401	0.6339451	2.1661531	2.1661531
135	29:54.9	574288	6.35303E+12	5.6446E+13	5391.07	0.0243161	0.020504	0.0712902	0.7523401	0.6343938	2.1726335	2.1726335
136	34:58.3	574289	6.35303E+12	5.61643E+13	5386.28	0.0243161	0.0215335	0.0715842	0.7523401	0.6662465	2.1815923	2.1815923
137	40:02.0	574289	6.35303E+12	5.61643E+13	5381.99	0.0243161	0.0216111	0.0715272	0.7523401	0.6686474	2.1798548	2.1798548
138	45:05.1	574289	6.35303E+12	5.61643E+13	5375.06	0.0243161	0.0210446	0.0714351	0.7523401	0.6511199	2.1770479	2.1770479
139	50:08.2	574290	6.35303E+12	5.56905E+13	5379.99	0.0243161	0.0216184	0.0721089	0.7523401	0.6688733	2.1975834	2.1975834
140	55:11.2	574292	6.35303E+12	5.59818E+13	5380.89	0.0243161	0.021687	0.0717456	0.7523401	0.6709958	2.1865119	2.1865119
141	00:14.3	574294	6.35303E+12	5.66874E+13	5378.02	0.0257744	0.0216429	0.0708148	0.7974599	0.6696313	2.1581456	2.1581456
142	05:17.2	574295	6.35303E+12	5.71185E+13	5388.44	0.0257744	0.0212776	0.0704165	0.7974599	0.6583289	2.1460054	2.1460054
143	10:20.9	574296	6.35303E+12	5.69506E+13	5391.26	0.0257744	0.0214204	0.0706661	0.7974599	0.6627472	2.1534583	2.1534583
144	15:24.1	574298	6.35303E+12	5.77593E+13	5389.31	0.0257744	0.0214204	0.0696465	0.7974599	0.6627472	2.1225393	2.1225393
145	20:27.3	574298	6.35303E+12	5.77593E+13	5388.39	0.0257744	0.0220102	0.0696346	0.7974599	0.6809956	2.122177	2.122177
146	25:31.0	574298	6.35303E+12	5.77593E+13	5393.64	0.0257744	0.025403	0.0697024	0.7974599	0.7859688	2.1242446	2.1242446
147	30:34.5	574299	6.35303E+12	5.69012E+13	5395.3	0.0257744	0.0261091	0.0707755	0.7974599	0.8078156	2.1569462	2.1569462
148	35:39.5	574301	6.35303E+12	5.7613E+13	5391.27	0.0257744	0.0257444	0.0698488	0.7974599	2.5818347	2.1287047	2.5818347
149	40:44.8	574301	6.35303E+12	5.7613E+13	5390.99	0.0257744	0.0218203	0.0698452	0.7974599	6.7512101	2.1285942	6.7512101
150	45:49.0	574302	6.35303E+12	5.77583E+13	5394.98	0.0257744	0.015508	0.069721	0.7974599	4.7981752	2.1284099	4.7981752
151	50:52.9	574302	6.35303E+12	5.77583E+13	5395.4	0.0257744	0.1766657	0.0697264	0.7974599	5.4660368	2.1249753	5.4660368
152	55:56.9	574304	6.35303E+12	5.7411E+13	5395.01	0.0257744	0.174439	0.0701432	0.7974599	5.3971427	2.1376776	5.3971427
153	01:01.0	574305	6.35303E+12	5.8471E+13	5392.45	0.0279426	0.02174554	0.0688389	0.864544	6.7280701	2.0979265	6.7280701
154	06:05.1	574305	6.35303E+12	5.8471E+13	5393.6	0.0279426	0.0374963	0.0688536	0.864544	1.160052	2.0983739	2.0983739
155	11:09.9	574305	6.35303E+12	5.8471E+13	5393.59	0.0279426	0.0279332	0.0688534	0.864544	0.8642532	2.09837	2.09837
156	16:13.3	574307	6.35303E+12	5.89967E+13	5393.1	0.0279426	0.0249637	0.0682337	0.864544	0.7723769	2.0794831	2.0794831
157	21:16.3	574309	6.35303E+12	6.00748E+13	5397.01	0.0279426	0.025771	0.0670578	0.864544	0.7973547	2.0436461	2.0436461
158	26:19.2	574310	6.35303E+12	6.02983E+13	5396.18	0.0279426	0.025585	0.066799	0.864544	0.7915999	2.035759	2.035759
159	31:22.5	574311	6.35303E+12	6.01255E+13	5399.99	0.0279426	0.0297997	0.0670382	0.864544	0.9220027	2.0430488	2.0430488
160	36:25.4	574311	6.35303E+12	6.01255E+13	5402.65	0.0279426	0.0297908	0.0670712	0.864544	0.9217274	2.0440552	2.0440552
161	41:28.4	574312	6.35303E+12	5.99055E+13	5397.01	0.0279426	0.0298367	0.0672472	0.864544	0.9231475	2.0494202	2.0494202
162	46:31.4	574312	6.35303E+12	5.99055E+13	5395.01	0.0279426	0.0256849	0.0672223	0.864544	0.7946908	2.0486608	2.0486608
163	51:34.4	574315	6.35303E+12	5.97623E+13	5393.25	0.0279426	0.0284134	0.0673615	0.864544	0.8791106	2.0529008	2.0529008
164	56:37.4	574315	6.35303E+12	5.97623E+13								

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
190	08:04.2	574326	6.35303E+12	5.98016E+13	5400.27	0.0298595	0.0283365	0.0674048	0.9238529	0.8767313	2.0542223	2.0542223
191	13:10.1	574327	6.35303E+12	5.96067E+13	5403.01	0.0298595	0.0272184	0.0676595	0.9238529	0.8421373	2.0619836	2.0619836
192	18:13.1	574327	6.35303E+12	5.96067E+13	5405.55	0.0298595	0.0254796	0.0676537	0.9238529	0.7883388	2.061808	2.061808
193	23:16.5	574328	6.35303E+12	5.96752E+13	5405.49	0.0298595	0.026922	0.0676129	0.9238529	0.8329667	2.0605642	2.0605642
194	28:19.6	574328	6.35303E+12	5.96752E+13	5407.99	0.0298595	0.0266884	0.0676442	0.9238529	0.8257391	2.0615172	2.0615172
195	33:22.8	574329	6.35303E+12	5.94855E+13	5414.16	0.0298595	0.0268196	0.0679373	0.9238529	0.8297984	2.0704516	2.0704516
196	38:26.4	574330	6.35303E+12	5.97035E+13	5414.16	0.0298595	0.0268326	0.0676893	0.9238529	0.8302006	2.0628912	2.0628912
197	43:29.6	574331	6.35303E+12	5.96567E+13	5411.77	0.0298595	0.0255719	0.0677124	0.9238529	0.7911946	2.0635973	2.0635973
198	48:32.6	574332	6.35303E+12	5.93593E+13	5409.61	0.0298595	0.0266704	0.0680245	0.9238529	0.8251822	2.0731087	2.0731087
199	53:36.1	574333	6.35303E+12	5.9734E+13	5404.43	0.0298595	0.0266612	0.0675331	0.9238529	0.8248975	2.0581326	2.0581326
200	58:39.0	574334	6.35303E+12	5.92562E+13	5401.16	0.0298595	0.0269553	0.0680365	0.9238529	0.833997	2.0734727	2.0734727
201	03:42.1	574335	6.35303E+12	5.9018E+13	5401.4	0.028602	0.0279105	0.0683141	0.8849459	0.8635509	2.0819329	2.0819329
202	08:45.2	574335	6.35303E+12	5.9018E+13	5400.05	0.028602	0.0267242	0.068297	0.8849459	0.8268467	2.0814126	2.0814126
203	13:48.8	574337	6.35303E+12	5.90470E+13	5403.81	0.028602	0.0267657	0.0667358	0.8849459	0.8281308	2.0338321	2.0338321
204	18:51.7	574338	6.35303E+12	6.00814E+13	5403.9	0.028602	0.026525	0.067136	0.8849459	0.8206835	2.0460298	2.0460298
205	23:55.0	574341	6.35303E+12	6.05704E+13	5404.02	0.028602	0.026048	0.0665954	0.8849459	0.8059251	2.0295562	2.0295562
206	28:58.6	574342	6.35303E+12	6.0482E+13	5406.89	0.028602	0.0265109	0.0667282	0.8849459	0.8202472	2.0336015	2.0336015
207	34:01.7	574343	6.35303E+12	5.99395E+13	5402.19	0.028602	0.0255512	0.0672736	0.8849459	0.7905541	2.0502238	2.0502238
208	39:04.8	574343	6.35303E+12	5.99395E+13	5399.98	0.028602	0.0262086	0.0672461	0.8849459	0.8108941	2.0493851	2.0493851
209	44:07.8	574344	6.35303E+12	5.95861E+13	5399.01	0.028602	0.0260242	0.0676328	0.8849459	0.8051887	2.0611697	2.0611697
210	49:11.2	574344	6.35303E+12	5.95861E+13	5394.85	0.028602	0.0266401	0.0675807	0.8849459	0.8242447	2.0595816	2.0595816
211	54:14.4	574344	6.35303E+12	5.95861E+13	5401.23	0.028602	0.0260209	0.0676606	0.8849459	0.8050866	2.0620172	2.0620172
212	59:17.3	574344	6.35303E+12	5.95861E+13	5398.44	0.028602	0.0262469	0.0676256	0.8849459	0.8120791	2.0609521	2.0609521
213	04:21.4	574346	6.35303E+12	5.84022E+13	5394.51	0.0275993	0.0223023	0.0689463	0.8539223	0.69089732	2.1012014	2.1012014
214	09:27.4	574347	6.35303E+12	5.86008E+13	5390.6	0.0275993	0.0264187	0.0686629	0.8539223	0.8173946	2.0925629	2.0925629
215	14:30.5	574347	6.35303E+12	5.86008E+13	5397.94	0.0275993	0.0265111	0.0687564	0.8539223	0.8202534	2.0954122	2.0954122
216	19:33.5	574348	6.35303E+12	5.87322E+13	5396.99	0.0275993	0.0266306	0.0685905	0.8539223	0.8239508	2.0903567	2.0903567
217	24:36.5	574348	6.35303E+12	5.87322E+13	5396.21	0.0275993	0.0263818	0.0685806	0.8539223	0.8142789	2.0900545	2.0900545
218	29:41.0	574349	6.35303E+12	5.84595E+13	5396.31	0.0275993	0.0222834	0.0689017	0.8539223	0.6774484	2.0998406	2.0998406
219	34:45.8	574350	6.35303E+12	5.91267E+13	5395.07	0.0275993	0.0360181	0.0681086	0.8539223	1.1144093	2.07567	2.07567
220	39:49.9	574350	6.35303E+12	5.91267E+13	5395.47	0.0275993	0.026792	0.0681136	0.8539223	0.8289445	2.0758239	2.0758239
221	44:54.1	574351	6.35303E+12	5.92508E+13	5395.05	0.0275993	0.0245607	0.0679657	0.8539223	0.7599081	2.0713145	2.0713145
222	49:58.3	574351	6.35303E+12	5.92508E+13	5393.06	0.0275993	0.0251914	0.0679406	0.8539223	0.7794219	2.0705505	2.0705505
223	55:03.7	574351	6.35303E+12	5.92508E+13	5391.73	0.0275993	0.0244349	0.0679238	0.8539223	0.7560158	2.0700399	2.0700399
224	00:06.8	574351	6.35303E+12	5.92508E+13	5391.02	0.0287438	0.0246767	0.0679149	0.8893332	0.7634971	2.0697673	2.0697673
225	05:09.8	574351	6.35303E+12	5.92508E+13	5365.12	0.0287438	0.0247456	0.0675886	0.8893332	0.7656289	2.0598235	2.0598235
226	10:12.8	574351	6.35303E+12	5.92508E+13	5371.89	0.0287438	0.0222708	0.0676739	0.8893332	0.6890586	2.0624227	2.0624227
227	15:16.2	574351	6.35303E+12	5.92508E+13	5379.7	0.0287438	0.0239242	0.0677723	0.8893332	0.7402147	2.0654212	2.0654212
228	20:19.5	574353	6.35303E+12	5.95341E+13	5378.3	0.0287438	0.0226519	0.0674322	0.8893332	0.7008498	2.0550568	2.0550568
229	25:22.4	574353	6.35303E+12	5.95341E+13	5381.03	0.0287438	0.0245188	0.0674664	0.8893332	0.7586117	2.0560999	2.0560999
230	30:25.5	574353	6.35303E+12	5.95341E+13	5392.25	0.0287438	0.024939	0.0676071	0.8893332	0.7716127	2.0603871	2.0603871
231	35:29.0	574353	6.35303E+12	5.95341E+13	5394.16	0.0287438	0.0248882	0.067631	0.8893332	0.7700409	2.0611169	2.0611169
232	40:32.2	574353	6.35303E+12	5.95341E+13	5399.99	0.0287438	0.0245715	0.0677041	0.8893332	0.7602422	2.0633446	2.0633446
233	45:35.1	574355	6.35303E+12	6.01266E+13	5396.88	0.0287438	0.0230276	0.0669983	0.8893332	0.7124739	2.0418346	2.0418346
234	50:38.3	574356	6.35303E+12	6.01278E+13	5394.77	0.0287438	0.0244562	0.0669709	0.8893332	0.7566748	2.0409989	2.0409989
235	55:42.0	574356	6.35303E+12	6.01278E+13	5402.4	0.0287438	0.0216672	0.0670656	0.8893332	0.6703832	2.0438855	2.0438855
236	00:45.1	574357	6.35303E+12	5.98782E+13	5408.98	0.0349099	0.0215151	0.0674272	1.0801123	0.6657019	2.0549051	2.0549051
237	05:48.5	574357	6.35303E+12	5.98782E+13	5415.88	0.0349099	0.021311	0.0675132	1.0801123	0.6593623	2.0575264	2.0575264
238	10:51.8	574359	6.35303E+12	5.99023E+13	5413.47	0.0349099	0.0215195	0.067456	1.0801123	0.6658133	2.0557835	2.0557835
239	15:54.9	574359	6.35303E+12	5.99023E+13	5409.99	0.0349099	0.0216145	0.0674127	1.0801123	0.6687526	2.0544619	2.0544619
240	20:57.9	574360	6.35303E+12	6.0023E+13	5408.83	0.0349099	0.0224358	0.0672626	1.0801123	0.6941637	2.049888	2.049888
241	26:01.1	574360	6.35303E+12	6.0023E+13	5402.81	0.0349099	0.0221931	0.0671877	1.0801123	0.6866545	2.0476064	2.0476064
242	31:04.4	574361	6.35303E+12	5.95038E+13	5407.93	0.0349099	0.024178	0.0678382	1.0801123	0.7480673	2.0674304	2.0674304
243	36:08.0	574361	6.35303E+12	5.95038E+13	5411.14	0.0349099	0.0353979	0.0678785	1.0801123	1.095211	2.0686576	2.0686576
244	41:11.6	574362	6.35303E+12	5.87448E+13	5422.09	0.0349099	0.0235493	0.0668946	1.0801123	0.7286153	2.0996263	2.0996263
245	46:14.8	574362	6.35303E+12	5.87448E+13	5435.74	0.0349099	0.0221814	0.0690681	1.0801123	0.6862925	2.1049121	2.1049121
246	51:17.9	574362	6.35303E+12	5.87448E+13	5435.55	0.0349099	0.0237741	0.0690657	1.0801123	0.7355507	2.1048385	2.1048385
247	56:21.6	574363	6.35303E+12	5.80502E+13	5427.15	0.0349099	0.032206	0.0697841	1.0801123	0.9964536	2.1267343	2.1267343
248	01:24.7	574363	6.35303E+12	5.80502E+13	5428.1	0.0262015	0.0475413	0.0697964	0.8106744	1.4709278	2.1271066	2.1271066
249	06:27.9	574364	6.35303E+12	5.78645E+13	5441.31	0.0262015	0.0428348	0.0701907	0.8106744	1.3253087	2.1391255	2.1391255
250	11:31.0	574364	6.35303E+12	5.78645E+13	5428.95	0.0262015	0.0240695	0.0700313	0.8106744	0.7455457	2.1342664	2.1342664
251	16:33.9	574367	6.35303E+12	5.84533E+13	5433.35	0.0262015	0.0244572	0.069382	0.8106744	0.7567058	2.1144803	2.1144803
252	21:38.4	574367	6.35303E+12	5.84533E+13	5439.23	0.0262015	0.022965	0.0694571	0.8106744	0.7105371	2.1167686	2.1167686
253	26:41.8	574368	6.35303E+12	5.81378E+13	5433.99	0.0262015	0.0212901	0.0697668	0.8106744	0.6587157	2.1262058	2.1262058
254	31:45.4	574368	6.35303E+12	5.81378E+13	5446.09	0.0262015	0.0209847	0.0699221	0.8106744	0.6492697	2.1309403	2.1309403
255	36:48.4	574369	6.35303E+12	5.7527E+13	5440.51	0.0262015	0.0204925	0.0705922	0.8106744	0.634038	2.1513595	2.1513595
256	41:51.9	574370	6.35303E+12	5.73316E+13	5442.44	0.0262015	0.0198587	0.0708579	0.8106744	0.6144282	2.1594579	2.1594579
257	46:55.1	574370	6.35303E+12	5.73316E+13	5449.99	0.0262015	0.0197845	0.0709562	0.8106744	0.6121324	2.1624536	2.1624536
258	51:58.4	574370	6.35									

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
284	03:51.1	574388	6.35030E+12	5.41076E+13	5493.27	0.0165491	0.0183691	0.0757811	0.5120292	0.56834	2.3094963	2.3094963
285	08:54.1	574388	6.35030E+12	5.41076E+13	5497.61	0.0165491	0.0183647	0.0758409	0.5120292	0.5682038	2.311321	2.311321
286	13:57.4	574390	6.35030E+12	5.36713E+13	5491.93	0.0165491	0.0183675	0.0763785	0.5120292	0.5682843	2.3277048	2.3277048
287	19:00.7	574393	6.35030E+12	5.4543E+13	5502.77	0.0165491	0.0188417	0.0753062	0.5120292	0.5829622	2.2950255	2.2950255
288	24:04.5	574393	6.35030E+12	5.4543E+13	5525.72	0.0165491	0.0193995	0.0756203	0.5120292	0.6002205	2.3045972	2.3045972
289	29:07.6	574393	6.35030E+12	5.4543E+13	5538.58	0.0165491	0.0193609	0.0757963	0.5120292	0.5990262	2.3099607	2.3099607
290	34:10.9	574393	6.35030E+12	5.4543E+13	5548.77	0.0165491	0.019547	0.0759358	0.5120292	0.6047842	2.3142106	2.3142106
291	39:14.1	574394	6.35030E+12	5.38779E+13	5544.99	0.0165491	0.0195134	0.0768207	0.5120292	0.6037446	2.3411795	2.3411795
292	44:17.1	574395	6.35030E+12	5.53825E+13	5512.91	0.0165491	0.0198083	0.0743014	0.5120292	0.6128688	2.2644017	2.2644017
293	49:20.1	574395	6.35030E+12	5.53825E+13	5524.53	0.0165491	0.0195139	0.074458	0.5120292	0.604317	2.2691746	2.2691746
294	54:23.3	574395	6.35030E+12	5.53825E+13	5525.3	0.0165491	0.01959	0.0744684	0.5120292	0.6061146	2.2694909	2.2694909
295	59:26.3	574395	6.35030E+12	5.53825E+13	5519.06	0.0165491	0.0192502	0.0743843	0.5120292	0.5956012	2.2669278	2.2669278
296	04:29.4	574395	6.35030E+12	5.53825E+13	5533.7	0.0172292	0.0192508	0.0745816	0.5330714	0.5956198	2.2729411	2.2729411
297	09:32.4	574395	6.35030E+12	5.53825E+13	5530.29	0.0172292	0.0191812	0.0745356	0.5330714	0.5934663	2.2715405	2.2715405
298	14:35.9	574396	6.35030E+12	5.44713E+13	5534.64	0.0172292	0.0190064	0.0758421	0.5330714	0.588058	2.3113551	2.3113551
299	19:39.0	574396	6.35030E+12	5.44713E+13	5544.31	0.0172292	0.0189667	0.0759746	0.5330714	0.5868297	2.3153934	2.3153934
300	24:42.5	574396	6.35030E+12	5.44713E+13	5549.76	0.0172292	0.0190067	0.0760493	0.5330714	0.5880673	2.3176694	2.3176694
301	29:46.0	574397	6.35030E+12	5.38389E+13	5535.92	0.0172292	0.0190806	0.0767506	0.5330714	0.5903538	2.3390422	2.3390422
302	34:48.9	574397	6.35030E+12	5.38389E+13	5548.11	0.0172292	0.0187167	0.0769196	0.5330714	0.5790947	2.3441927	2.3441927
303	39:52.5	574397	6.35030E+12	5.38389E+13	5576.84	0.0172292	0.0189742	0.0773179	0.5330714	0.5870617	2.3563317	2.3563317
304	44:55.6	574397	6.35030E+12	5.38389E+13	5588.49	0.0172292	0.0188554	0.0774794	0.5330714	0.5833861	2.3612541	2.3612541
305	49:58.8	574397	6.35030E+12	5.38389E+13	5580.14	0.0172292	0.0189482	0.0773636	0.5330714	0.5862573	2.3577261	2.3577261
306	55:01.8	574397	6.35030E+12	5.38389E+13	5586.36	0.0172292	0.019429	0.0774499	0.5330714	0.6006351	2.3603541	2.3603541
307	00:05.2	574398	6.35030E+12	5.24135E+13	5582.24	0.0174125	0.0194554	0.0794975	0.5387428	0.6019501	2.422758	2.422758
308	05:09.1	574399	6.35030E+12	5.22154E+13	5575.01	0.0174125	0.019729	0.0796957	0.5387428	0.6123923	2.4287994	2.4287994
309	10:12.1	574400	6.35030E+12	5.19602E+13	5555.62	0.0174125	0.0199592	0.0798086	0.5387428	0.6175376	2.4322397	2.4322397
310	15:15.6	574400	6.35030E+12	5.19602E+13	5578.34	0.0174125	0.0198711	0.080135	0.5387428	0.6148118	2.4421865	2.4421865
311	20:18.5	574400	6.35030E+12	5.19602E+13	5579.19	0.0174125	0.0198617	0.0801472	0.5387428	0.614521	2.4425586	2.4425586
312	25:21.5	574401	6.35030E+12	5.14241E+13	5571.72	0.0174125	0.0200228	0.0808744	0.5387428	0.6195054	2.4647197	2.4647197
313	30:24.5	574401	6.35030E+12	5.14241E+13	5570.27	0.0174125	0.0199827	0.0808533	0.5387428	0.6182647	2.4640783	2.4640783
314	35:27.4	574402	6.35030E+12	5.15991E+13	5586.79	0.0174125	0.0207606	0.080818	0.5387428	0.642333	2.4630024	2.4630024
315	40:30.4	574403	6.35030E+12	5.16659E+13	5618.48	0.0174125	0.0202118	0.0811714	0.5387428	0.6256625	2.4737726	2.4737726
316	45:33.7	574404	6.35030E+12	5.22163E+13	5610.56	0.0174125	0.0221828	0.0802027	0.5387428	0.6863358	2.444248	2.444248
317	50:36.6	574405	6.35030E+12	5.26766E+13	5659.03	0.0174125	0.0202739	0.0801886	0.5387428	0.6272745	2.4438195	2.4438195
318	55:39.5	574406	6.35030E+12	5.44332E+13	5660.39	0.0174125	0.0201747	0.0776194	0.5387428	0.6242052	2.365522	2.365522
319	00:42.4	574407	6.35030E+12	5.44179E+13	5674.28	0.0182174	0.0190667	0.0778319	0.5636464	0.5899237	2.3719968	2.3719968
320	05:45.2	574408	6.35030E+12	5.43366E+13	5665.31	0.0182174	0.0196868	0.0778251	0.5636464	0.6091653	2.3717894	2.3717894
321	10:47.9	574408	6.35030E+12	5.43366E+13	5669.02	0.0182174	0.0199558	0.077876	0.5636464	0.6174325	2.3733426	2.3733426
322	15:50.8	574409	6.35030E+12	5.45039E+13	5707.81	0.0182174	0.0201714	0.0781682	0.5636464	0.6241031	2.3822461	2.3822461
323	20:53.8	574409	6.35030E+12	5.45039E+13	5687.02	0.0182174	0.0225138	0.0778835	0.5636464	0.696577	2.3735691	2.3735691
324	25:56.9	574410	6.35030E+12	5.4739E+13	5681.9	0.0182174	0.0207126	0.0774792	0.5636464	0.6408478	2.3612479	2.3612479
325	30:30.3	574410	6.35030E+12	5.4739E+13	5722.07	0.0182174	0.0216808	0.0780269	0.5636464	0.670804	2.3779415	2.3779415
326	41:06.3	574410	6.35030E+12	5.4739E+13	5722.31	0.0182174	0.0214058	0.0780302	0.5636464	0.6622955	2.3780413	2.3780413
327	46:09.6	574410	6.35030E+12	5.4739E+13	5758.38	0.0182174	0.0229584	0.0785221	0.5636464	0.7103329	2.393031	2.393031
328	51:12.9	574410	6.35030E+12	5.4739E+13	5752.53	0.0182174	0.0234792	0.0784423	0.5636464	0.7264464	2.3905999	2.3905999
329	01:18.1	574412	6.35030E+12	5.33495E+13	5778.34	0.0231716	0.024996	0.0808465	0.7169293	0.7733762	2.46387	2.46387
330	06:21.2	574412	6.35030E+12	5.33495E+13	5720.48	0.0231716	0.0224302	0.080037	0.7169293	0.6939904	2.4391986	2.4391986
331	11:24.7	574412	6.35030E+12	5.33495E+13	5706.21	0.0231716	0.0232405	0.0798373	0.7169293	0.7190611	2.4331139	2.4331139
332	16:27.6	574413	6.35030E+12	5.25253E+13	5710.17	0.0231716	0.0234349	0.0811462	0.7169293	0.7250578	2.4730049	2.4730049
333	21:30.3	574413	6.35030E+12	5.25253E+13	5738.9	0.0231716	0.0220916	0.0815545	0.7169293	0.6835141	2.4854476	2.4854476
334	26:33.4	574413	6.35030E+12	5.25253E+13	5729.99	0.0231716	0.0254117	0.0814279	0.7169293	0.786238	2.4815887	2.4815887
335	31:36.2	574414	6.35030E+12	5.19701E+13	5734.45	0.0231716	0.0252112	0.0823619	0.7169293	0.7800345	2.5100531	2.5100531
336	36:39.1	574414	6.35030E+12	5.19701E+13	5744.82	0.0231716	0.025471	0.0825108	0.7169293	0.7880727	2.5145922	2.5145922
337	41:41.9	574416	6.35030E+12	5.19215E+13	5727.38	0.0231716	0.0253676	0.0823374	0.7169293	0.7848735	2.509306	2.509306
338	46:44.7	574418	6.35030E+12	5.19586E+13	5734.35	0.0231716	0.02236	0.0823788	0.7169293	0.6918184	2.510567	2.510567
339	51:47.4	574420	6.35030E+12	5.25895E+13	5719.9	0.0231716	0.0361412	0.0811854	0.7169293	1.1182087	2.4741988	2.4741988
340	56:50.2	574421	6.35030E+12	5.25734E+13	5661.86	0.0231716	0.0233862	0.0803862	0.7169293	0.723569	2.4498404	2.4498404
341	01:53.1	574421	6.35030E+12	5.25734E+13	5685.95	0.0265606	0.0218135	0.0807282	0.821785	0.6749097	2.4602639	2.4602639
342	06:56.0	574423	6.35030E+12	5.29406E+13	5678.18	0.0265606	0.0217023	0.0800587	0.821785	0.6714692	2.4398604	2.4398604
343	11:59.2	574424	6.35030E+12	5.28202E+13	5698.16	0.0265606	0.0217781	0.0805235	0.821785	0.6738144	2.4540273	2.4540273
344	17:02.4	574424	6.35030E+12	5.28202E+13	5677.65	0.0265606	0.028073	0.0802337	0.821785	0.8685786	2.4451943	2.4451943
345	22:05.3	574426	6.35030E+12	5.30049E+13	5685.84	0.0265606	0.0482239	0.0806095	0.821785	1.4920475	2.4401892	2.4401892
346	27:09.9	574426	6.35030E+12	5.30049E+13	5681.85	0.0265606	0.0235591	0.0800133	0.821785	7.2891886	2.4384768	2.4384768
347	32:14.0	574427	6.35030E+12	5.28466E+13	5686.85	0.0265606	0.0228130	0.0803235	0.821785	7.058367	2.4479317	2.4479317
348	37:18.6	574427	6.35030E+12	5.28466E+13	5693.47	0.0265606	0.0487972	0.080417	0.821785	1.5097854	2.4507813	2.4507813
349	42:21.3	574428	6.35030E+12	5.2354E+13	5717.6	0.0265606	0.0277079	0.0815177	0.821785	0.8572824	2.4843261	2.4843261
350	47:24.0	574428	6.35030E+12	5.2354E+13	5722.32	0.0265606	0.0280138	0.081585	0.821785	0.866747	2.4863769	2.4863769
351	52:27.1	574428	6.35030E+12	5.2354E+13	5715.88	0.0265606	0.028221	0.0814932	0.821785	0.8731577	2.4835787	2.4835787
352	57:29.7	574429	6.35030E+12	5.15634E+13								

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	08:47.3	574443	6.35303E+12	5.28228E+13	5746.65	0.0298497	0.0244251	0.0812048	0.9235497	0.7557126	2.4747908	2.4747908
379	13:50.5	574443	6.35303E+12	5.28228E+13	5760.39	0.0298497	0.0246582	0.081399	0.9235497	0.7629247	2.4807079	2.4807079
380	18:53.5	574443	6.35303E+12	5.28228E+13	5759.7	0.0298497	0.0249722	0.0813893	0.9235497	0.7726399	2.4804107	2.4804107
381	23:57.3	574444	6.35303E+12	5.21447E+13	5763.19	0.0298497	0.0248231	0.0824975	0.9235497	0.7680267	2.5141848	2.5141848
382	29:00.1	574445	6.35303E+12	5.19166E+13	5756.99	0.0298497	0.0277305	0.0827709	0.9235497	0.8579817	2.5225189	2.5225189
383	34:03.0	574446	6.35303E+12	5.17083E+13	5752.55	0.0298497	0.0341344	0.0830402	0.9235497	1.0561183	2.5307244	2.5307244
384	44:08.1	574446	6.35303E+12	5.17083E+13	5759.01	0.0298497	0.026299	0.0831334	0.9235497	0.8136911	2.5335664	2.5335664
385	49:11.1	574447	6.35303E+12	5.14685E+13	5756.94	0.0298497	0.0264755	0.0834907	0.9235497	0.819152	2.5444543	2.5444543
386	54:14.3	574448	6.35303E+12	5.19511E+13	5733.43	0.0298497	0.0263969	0.0823773	0.9235497	0.8167201	2.5105227	2.5105227
387	59:17.3	574448	6.35303E+12	5.19511E+13	5719.45	0.0298497	0.0296594	0.0821764	0.9235497	0.9176618	2.5044012	2.5044012
388	04:20.5	574448	6.35303E+12	5.19511E+13	5694.51	0.0289776	0.0266675	0.0818181	0.8965669	0.8250925	2.4934806	2.4934806
389	09:23.7	574449	6.35303E+12	5.17328E+13	5699.65	0.0289776	0.0248567	0.0822376	0.8965669	0.7690663	2.5062642	2.5062642
390	14:27.2	574450	6.35303E+12	5.16724E+13	5715.01	0.0289776	0.0254265	0.0825556	0.8965669	0.7866959	2.5159564	2.5159564
391	19:30.0	574450	6.35303E+12	5.16724E+13	5715.01	0.0289776	0.0257899	0.0825556	0.8965669	0.7979395	2.5159564	2.5159564
392	24:33.5	574450	6.35303E+12	5.16724E+13	5711.26	0.0289776	0.0254494	0.0825014	0.8965669	0.7874044	2.5143055	2.5143055
393	29:36.5	574450	6.35303E+12	5.16724E+13	5720.49	0.0289776	0.0255463	0.0826348	0.8965669	0.7904025	2.5183689	2.5183689
394	34:39.6	574450	6.35303E+12	5.16724E+13	5725.31	0.0289776	0.0252955	0.0827044	0.8965669	0.7826428	2.5204908	2.5204908
395	39:42.4	574452	6.35303E+12	5.09821E+13	5725.01	0.0289776	0.0258846	0.0838198	0.8965669	0.8008695	2.5544843	2.5544843
396	44:46.8	574454	6.35303E+12	5.11925E+13	5714.05	0.0289776	0.0259942	0.0833155	0.8965669	0.8042605	2.5391139	2.5391139
397	49:49.8	574454	6.35303E+12	5.11925E+13	5706.05	0.0289776	0.0248507	0.0831988	0.8965669	0.7688807	2.535559	2.535559
398	54:52.5	574454	6.35303E+12	5.11925E+13	5709.99	0.0289776	0.0240952	0.0832563	0.8965669	0.7455055	2.5373098	2.5373098
399	59:55.4	574454	6.35303E+12	5.11925E+13	5714.98	0.0289776	0.0237491	0.083329	0.8965669	0.7347972	2.5395272	2.5395272
400	04:58.3	574454	6.35303E+12	5.11925E+13	5715.01	0.0314491	0.0249024	0.0833295	0.9730352	0.7704803	2.5395405	2.5395405
401	10:01.4	574454	6.35303E+12	5.11925E+13	5705.02	0.0314491	0.0238843	0.0831838	0.9730352	0.7389802	2.5351013	2.5351013

Bearbox v Lancium
Trial Exhibit
TX920-2

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
2	20:03.1	574204	6.35303E+12	5.38327E+13	5320.02	0.0062116	0.0053108	0.0737658	0.1921869	0.1643162	2.2480786	2.2480786
3	25:07.0	574204	6.35303E+12	5.38327E+13	5320.01	0.0062116	0.0063954	0.0737656	0.1921869	0.1978737	2.2480744	2.2480744
4	30:10.6	574204	6.35303E+12	5.38327E+13	5319.98	0.0062116	0.0064769	0.0737652	0.1921869	0.2003953	2.2480617	2.2480617
5	35:13.6	574205	6.35303E+12	5.30839E+13	5325.25	0.0062116	0.0050178	0.0748799	0.1921869	0.1552507	2.2820313	2.2820313
6	40:16.4	574205	6.35303E+12	5.30839E+13	5321.94	0.0062116	0.0038182	0.0748333	0.1921869	0.1181351	2.2806129	2.2806129
7	45:19.2	574206	6.35303E+12	5.44532E+13	5326.51	0.0062116	0.0054266	0.0730143	0.1921869	0.167899	2.2251767	2.2251767
8	50:22.3	574206	6.35303E+12	5.44532E+13	5326.54	0.0062116	0.0076717	0.0730147	0.1921869	0.2373624	2.2251893	2.2251893
9	55:26.0	574207	6.35303E+12	5.39845E+13	5328.24	0.0062116	0.0011776	0.0736721	0.1921869	0.0364349	2.2452223	2.2452223
10	00:29.0	574207	6.35303E+12	5.39845E+13	5325.77	0.0011643	0.0027475	0.0736379	0.0360234	0.0850077	2.2441815	2.2441815
11	05:31.8	574208	6.35303E+12	5.34662E+13	5325.77	0.0011643	-0.0031704	0.0743518	0.0360234	-0.1026373	2.2659373	2.2659373
12	10:34.6	574208	6.35303E+12	5.34662E+13	5325.01	0.0011643	-0.008352	0.0743412	0.0360234	-0.2584109	2.2656139	2.2656139
13	15:37.4	574209	6.35303E+12	5.33477E+13	5321.01	0.0011643	0.0010002	0.0744503	0.0360234	0.0309462	2.2689395	2.2689395
14	20:40.3	574209	6.35303E+12	5.33477E+13	5321.01	0.0011643	0.001291	0.0744503	0.0360234	0.0399435	2.2689395	2.2689395
15	25:43.5	574210	6.35303E+12	5.36221E+13	5326.26	0.0011643	-0.0191129	0.0741425	0.0360234	-0.5913531	2.2595592	2.2595592
16	30:46.5	574212	6.35303E+12	5.54528E+13	5327.73	0.0011643	-0.0318014	0.0717145	0.0360234	-0.9839353	2.1855639	2.1855639
17	35:49.4	574213	6.35303E+12	5.51131E+13	5321.02	0.0011643	-0.0309552	0.0720657	0.0360234	-0.9577539	2.1962672	2.1962672
18	40:52.8	574215	6.35303E+12	5.58834E+13	5323.1	0.0011643	-0.0303368	0.0711001	0.0360234	-0.9386206	2.1668382	2.1668382
19	45:56.2	574215	6.35303E+12	5.58834E+13	5323.1	0.0011643	-0.0268603	0.0711001	0.0360234	-0.8310577	2.1668382	2.1668382
20	50:59.1	574215	6.35303E+12	5.58834E+13	5326.69	0.0011643	-0.0314096	0.071148	0.0360234	-0.971813	2.1682995	2.1682995
21	56:02.0	574215	6.35303E+12	5.58834E+13	5326.69	0.0011643	-0.0323434	0.071148	0.0360234	-1.0007048	2.1682995	2.1682995
22	01:05.0	574216	6.35303E+12	5.54406E+13	5328.81	0.0005329	-0.0313858	0.0717448	0.0164879	-0.9710767	2.1864882	2.1864882
23	06:08.0	574216	6.35303E+12	5.54406E+13	5330.34	0.0005329	-0.0029529	0.0717654	0.0164879	-0.0913627	2.187116	2.187116
24	11:11.1	574219	6.35303E+12	5.59245E+13	5326.73	0.0005329	-0.0191457	0.0710963	0.0164879	-0.592368	2.1667245	2.1667245
25	16:14.0	574220	6.35303E+12	5.59914E+13	5332.99	0.0005329	-0.017496	0.0710948	0.0164879	-0.5413262	2.1666774	2.1666774
26	21:16.9	574220	6.35303E+12	5.59914E+13	5343.69	0.0005329	-0.0277353	0.0712374	0.0164879	-0.8581302	2.1710246	2.1710246
27	26:20.3	574225	6.35303E+12	5.59876E+13	5336.9	0.0005329	-0.0303035	0.0711518	0.0164879	-0.9375903	2.1684142	2.1684142
28	31:23.1	574226	6.35303E+12	5.60441E+13	5333.74	0.0005329	-0.0262667	0.0710379	0.0164879	-0.8126917	2.1649441	2.1649441
29	36:26.0	574227	6.35303E+12	5.56725E+13	5331.57	0.0005329	-0.0192771	0.071483	0.0164879	-0.5964335	2.1785089	2.1785089
30	41:28.9	574227	6.35303E+12	5.56725E+13	5332.07	0.0005329	-0.0198472	0.0714897	0.0164879	-0.6140724	2.1787132	2.1787132
31	46:31.8	574227	6.35303E+12	5.56725E+13	5343.43	0.0005329	-0.0195084	0.071642	0.0164879	-0.6035899	2.1833549	2.1833549
32	51:34.6	574228	6.35303E+12	5.52451E+13	5343.99	0.0005329	-0.0293344	0.0722038	0.0164879	-0.9076063	2.2004762	2.2004762
33	56:37.6	574229	6.35303E+12	5.5892E+13	5328.81	0.0005329	-0.0236519	0.0711654	0.0164879	-0.7317898	2.1688293	2.1688293
34	01:40.7	574229	6.35303E+12	5.5892E+13	5339.09	0.0004335	-0.0187133	0.0713027	0.0134125	-0.5789895	2.1730133	2.1730133
35	06:43.9	574229	6.35303E+12	5.5892E+13	5341.16	0.0004335	-0.0309148	0.0713303	0.0134125	-0.9565039	2.1738558	2.1738558
36	11:46.8	574230	6.35303E+12	5.53347E+13	5346.19	0.0004335	-0.0303946	0.0721165	0.0134125	-0.9404089	2.1978165	2.1978165
37	16:50.5	574230	6.35303E+12	5.53347E+13	5351.52	0.0004335	-0.0303078	0.0721884	0.0134125	-0.9377233	2.2000077	2.2000077
38	21:53.4	574231	6.35303E+12	5.49411E+13	5346.91	0.0004335	-0.0281596	0.0726431	0.0134125	-0.871258	2.2138627	2.2138627
39	26:56.3	574231	6.35303E+12	5.49411E+13	5345.36	0.0004335	-0.0283143	0.072622	0.0134125	-0.8760444	2.2132209	2.2132209
40	31:59.3	574231	6.35303E+12	5.49411E+13	5345.35	0.0004335	-0.0270691	0.0726219	0.0134125	-0.837518	2.2132168	2.2132168
41	37:02.5	574232	6.35303E+12	5.47061E+13	5343.98	0.0004335	-0.0275323	0.0729151	0.0134125	-0.8518494	2.2221538	2.2221538
42	42:05.7	574232	6.35303E+12	5.47061E+13	5350.73	0.0004335	-0.0275121	0.0730072	0.0134125	-0.8512244	2.2249606	2.2249606
43	47:08.6	574232	6.35303E+12	5.47061E+13	5364.94	0.0004335	-0.0290109	0.0732011	0.0134125	-0.8975792	2.2308695	2.2308695
44	52:11.5	574232	6.35303E+12	5.47061E+13	5358.68	0.0004335	-0.0282604	0.0731157	0.0134125	-0.8743768	2.2282664	2.2282664
45	57:14.5	574232	6.35303E+12	5.47061E+13	5363.38	0.0004335	-0.0265346	0.0731798	0.0134125	-0.8209805	2.2302208	2.2302208
46	02:17.5	574233	6.35303E+12	5.35475E+13	5374.99	0.0030406	-0.02651	0.074925	0.0940762	-0.8202194	2.283406	2.283406
47	07:20.4	574233	6.35303E+12	5.35475E+13	5371.65	0.0030406	-0.0027186	0.0748784	0.0940762	-0.0841135	2.2819871	2.2819871
48	12:23.4	574233	6.35303E+12	5.35475E+13	5364.6	0.0030406	-0.0006889	0.0747801	0.0940762	-0.0213146	2.2789921	2.2789921
49	17:26.7	574233	6.35303E+12	5.35475E+13	5366.68	0.0030406	-0.0182862	0.0748091	0.0940762	-0.565775	2.2798757	2.2798757
50	22:29.5	574234	6.35303E+12	5.31615E+13	5358.76	0.0030406	-0.0018507	0.0752411	0.0940762	-0.0572607	2.2930408	2.2930408
51	27:32.4	574234	6.35303E+12	5.31615E+13	5358.18	0.0030406	-0.0146632	0.075233	0.0940762	-0.4536794	2.2927926	2.2927926
52	32:35.2	574234	6.35303E+12	5.31615E+13	5349.69	0.0030406	-0.0031882	0.0751138	0.0940762	-0.0986429	2.2891597	2.2891597
53	37:38.0	574235	6.35303E+12	5.26774E+13	5347.97	0.0030406	-0.0160738	0.0757796	0.0940762	-0.4973234	2.3094528	2.3094528
54	42:41.4	574236	6.35303E+12	5.29706E+13	5347.88	0.0030406	-0.0316489	0.075359	0.0940762	-0.979217	2.2966332	2.2966332
55	47:44.2	574237	6.35303E+12	5.26741E+13	5352.24	0.0030406	-0.0302898	0.075845	0.0940762	-0.9371664	2.3114455	2.3114455
56	52:47.1	574238	6.35303E+12	5.2719E+13	5350.15	0.0030406	-0.0052788	0.0757508	0.0940762	-0.1633261	2.308573	2.308573
57	57:50.1	574238	6.35303E+12	5.2719E+13	5357.76	0.0030406	-0.0014966	0.0758585	0.0940762	-0.0463048	2.3118566	2.3118566
58	02:52.9	574239	6.35303E+12	5.28168E+13	5351.07	0.0126546	-0.0319016	0.0756235	0.3915333	-0.9870355	2.3046947	2.3046947
59	07:55.6	574240	6.35303E+12	5.25658E+13	5350.11	0.0126546	-0.0306567	0.075971	0.3915333	-0.9485183	2.3152833	2.3152833
60	12:58.4	574243	6.35303E+12	5.35108E+13	5352.35	0.0126546	0.0001377	0.0746606	0.3915333	0.0042604	2.2753498	2.2753498
61	18:01.2	574243	6.35303E+12	5.35108E+13	5353.74	0.0126546	0.0004948	0.074668	0.3915333	0.0152905	2.2759407	2.2759407
62	23:04.0	574245	6.35303E+12	5.38531E+13	5358.7	0.0126546	0.0010492	0.074274	0.3915333	0.0324622	2.2635674	2.2635674
63	28:07.3	574246	6.35303E+12	5.41667E+13	5358.74	0.0126546	-0.0032429	0.0738446	0.3915333	-0.1003353	2.2504797	2.2504797
64	33:10.6	574246	6.35303E+12	5.41667E+13	5361.99	0.0126546	-0.0011916	0.0738894	0.3915333	-0.0368681	2.2518446	2.2518446
65	38:13.3	574246	6.35303E+12	5.41667E+13	5364.93	0.0126546	0.0049583	0.0739299	0.3915333	0.1534098	2.2530793	2.2530793
66	43:16.3	574247	6.35303E+12	5.37144E+13	5365.93	0.0126546	-0.015444	0.0745663	0.3915333	-0.4778374	2.2724742	2.2724742
67	48:19.5	574249	6.35303E+12	5.43573E+13	5360.33	0.0126546	0.00011564	0.0736074	0.3915333	-0.035779	2.2432526	2.2432526
68	53:23.3	574251	6.35303E+12	5.52479E+13	5359.19	0.0126546	0.0020084	0.0724055	0.3915333	0.0621399	2.2066234	2.2066234
69	58:26.4	574252	6.35303E+12	5.50584E+13	5358.28	0.0126546	0.0019878	0.0726424	0.3915333	0.0615025	2.2138427	2.2138427
70	03:29.4	574252	6.35303E+12	5.50584E+13	5362.38	0.017578	0.0053492	0				

1	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
96	14:50.2	574269	6.35303E+12	5.58958E+13	5342.94	0.0197454	0.0091438	0.0713492	0.6109227	0.2829092	2.1744317	2.1744317
97	19:53.4	574270	6.35303E+12	5.6144E+13	5354.22	0.0197454	0.0085778	0.0711837	0.6109227	0.2653971	2.1693883	2.1693883
98	24:56.4	574271	6.35303E+12	5.6095E+13	5356.83	0.0197454	0.0083666	0.0712807	0.6109227	0.2588626	2.1723438	2.1723438
99	29:59.3	574271	6.35303E+12	5.6095E+13	5351.83	0.0197454	0.0082673	0.0712142	0.6109227	0.2557903	2.1703161	2.1703161
100	35:02.8	574272	6.35303E+12	5.54087E+13	5355.01	0.0197454	0.0084139	0.0721391	0.6109227	0.2603261	2.1985034	2.1985034
101	40:06.4	574273	6.35303E+12	5.53104E+13	5355.83	0.0197454	0.0088342	0.0722783	0.6109227	0.2733301	2.2027469	2.2027469
102	45:09.3	574274	6.35303E+12	5.53441E+13	5354.54	0.0197454	0.0108837	0.072217	0.6109227	0.3367417	2.2008772	2.2008772
103	50:12.2	574274	6.35303E+12	5.53441E+13	5352.64	0.0197454	0.0122486	0.0721913	0.6109227	0.3789717	2.2000962	2.2000962
104	55:15.6	574274	6.35303E+12	5.53441E+13	5355.99	0.0197454	0.0149968	0.0722365	0.6109227	0.464001	2.2014732	2.2014732
105	00:19.1	574274	6.35303E+12	5.53441E+13	5375.12	0.0222325	0.0101231	0.0724945	0.6878735	0.3132087	2.2093362	2.2093362
106	05:21.9	574274	6.35303E+12	5.53441E+13	5371.63	0.0222325	0.0092988	0.0724475	0.6878735	0.2877049	2.2079017	2.2079017
107	10:25.1	574274	6.35303E+12	5.53441E+13	5367.35	0.0222325	0.0159435	0.0723897	0.6878735	0.4932919	2.2061425	2.2061425
108	15:27.9	574274	6.35303E+12	5.53441E+13	5362.88	0.0222325	0.0163429	0.0723295	0.6878735	0.5056493	2.2043052	2.2043052
109	20:30.7	574275	6.35303E+12	5.36343E+13	5367	0.0222325	0.0162985	0.0746925	0.6878735	0.5042756	2.2763203	2.2763203
110	25:33.4	574275	6.35303E+12	5.36343E+13	5371.56	0.0222325	0.0160846	0.0747559	0.6878735	0.4976575	2.2782544	2.2782544
111	30:36.1	574276	6.35303E+12	5.309E+13	5370.52	0.0222325	0.0202582	0.0755079	0.6878735	0.6267887	2.3011697	2.3011697
112	35:39.0	574278	6.35303E+12	5.49235E+13	5373.23	0.0222325	0.0194913	0.0730239	0.6878735	0.6030608	2.2254696	2.2254696
113	40:41.9	574281	6.35303E+12	5.67946E+13	5385.74	0.0222325	0.0175595	0.0707827	0.6878735	0.5432909	2.1571652	2.1571652
114	45:45.1	574281	6.35303E+12	5.67946E+13	5380.67	0.0222325	0.0174214	0.070716	0.6878735	0.5390181	2.1551345	2.1551345
115	50:48.4	574281	6.35303E+12	5.67946E+13	5377.85	0.0222325	0.0137409	0.070679	0.6878735	0.4251434	2.154005	2.154005
116	55:51.4	574282	6.35303E+12	5.6096E+13	5376.85	0.0222325	0.0182958	0.0715459	0.6878735	0.5660721	2.1804251	2.1804251
117	00:54.6	574282	6.35303E+12	5.6096E+13	5379.99	0.0242054	0.0181581	0.0715877	0.7489151	0.5618116	2.1816984	2.1816984
118	05:57.8	574283	6.35303E+12	5.56063E+13	5400.03	0.0242054	0.0202376	0.0724871	0.7489151	0.6261513	2.2091081	2.2091081
119	11:00.8	574283	6.35303E+12	5.56063E+13	5401.02	0.0242054	0.0201139	0.0725003	0.7489151	0.6223241	2.2095131	2.2095131
120	16:04.4	574283	6.35303E+12	5.56063E+13	5410.51	0.0242054	0.0214443	0.0726277	0.7489151	0.6634866	2.2133954	2.2133954
121	21:08.0	574284	6.35303E+12	5.64188E+13	5401.01	0.0242054	0.0210331	0.0714561	0.7489151	0.6507641	2.17769	2.17769
122	26:11.4	574284	6.35303E+12	5.64188E+13	5401.31	0.0242054	0.0205184	0.0714601	0.7489151	0.6348393	2.1778109	2.1778109
123	31:14.5	574285	6.35303E+12	5.57835E+13	5409.35	0.0242054	0.0209267	0.0723816	0.7489151	0.6474721	2.2058933	2.2058933
124	36:17.4	574285	6.35303E+12	5.57835E+13	5396.6	0.0242054	0.0200056	0.072211	0.7489151	0.6189733	2.2006939	2.2006939
125	41:20.3	574285	6.35303E+12	5.57835E+13	5405.56	0.0242054	0.0208361	0.0723309	0.7489151	0.6446751	2.2043478	2.2043478
126	46:23.1	574285	6.35303E+12	5.57835E+13	5401.1	0.0242054	0.020561	0.0722712	0.7489151	0.6361573	2.202529	2.202529
127	51:26.0	574285	6.35303E+12	5.57835E+13	5400.14	0.0242054	0.0208137	0.0722583	0.7489151	0.6439759	2.2021375	2.2021375
128	56:29.0	574285	6.35303E+12	5.57835E+13	5401.59	0.0242054	0.020787	0.0722777	0.7489151	0.6431498	2.2027288	2.2027288
129	01:32.2	574285	6.35303E+12	5.57835E+13	5405.56	0.0252561	0.020855	0.0723309	0.7814237	0.6452537	2.2043478	2.2043478
130	06:35.5	574285	6.35303E+12	5.57835E+13	5409.65	0.0252561	0.0210312	0.0723856	0.7814237	0.6507053	2.2060156	2.2060156
131	11:38.4	574286	6.35303E+12	5.36818E+13	5410.84	0.0252561	0.0209883	0.075236	0.7814237	0.649378	2.2928844	2.2928844
132	16:41.6	574287	6.35303E+12	5.50908E+13	5403.01	0.0252561	0.0209295	0.0732057	0.7814237	0.649508	2.2310097	2.2310097
133	21:44.7	574288	6.35303E+12	5.6446E+13	5380.86	0.0252561	0.0210373	0.0711552	0.7814237	0.6508941	2.1685188	2.1685188
134	26:47.7	574288	6.35303E+12	5.6446E+13	5384.99	0.0252561	0.0210425	0.0712098	0.7814237	0.651055	2.1701832	2.1701832
135	31:50.7	574289	6.35303E+12	5.61643E+13	5388.52	0.0252561	0.022109	0.071614	0.7814237	0.6840525	2.1824996	2.1824996
136	36:53.9	574289	6.35303E+12	5.61643E+13	5385.01	0.0252561	0.021868	0.0715673	0.7814237	0.6864596	2.1810779	2.1810779
137	41:57.0	574289	6.35303E+12	5.61643E+13	5382.53	0.0252561	0.0216043	0.0715343	0.7814237	0.668437	2.1800735	2.1800735
138	47:00.1	574289	6.35303E+12	5.61643E+13	5379.16	0.0252561	0.0221913	0.0714896	0.7814237	0.686605	2.1787085	2.1787085
139	52:03.4	574292	6.35303E+12	5.59818E+13	5379.99	0.0252561	0.0222715	0.0717336	0.7814237	0.6890802	2.1861462	2.1861462
140	57:06.3	574293	6.35303E+12	5.63654E+13	5381.68	0.0252561	0.0222386	0.0712679	0.7814237	0.6880623	2.1719525	2.1719525
141	02:09.5	574294	6.35303E+12	5.66874E+13	5378.04	0.0264225	0.0216911	0.0708151	0.8175122	0.6711226	2.1581537	2.1581537
142	07:12.4	574295	6.35303E+12	5.71185E+13	5388.44	0.0264225	0.0218905	0.0704165	0.8175122	0.6772921	2.1460054	2.1460054
143	12:15.4	574296	6.35303E+12	5.69506E+13	5391.26	0.0264225	0.0220556	0.070661	0.8175122	0.6824003	2.1534583	2.1534583
144	17:18.3	574298	6.35303E+12	5.77593E+13	5388.44	0.0264225	0.0244837	0.0696352	0.8175122	0.7575257	2.1221966	2.1221966
145	22:21.3	574298	6.35303E+12	5.77593E+13	5392.01	0.0264225	0.0226768	0.0696814	0.8175122	0.7016202	2.1236027	2.1236027
146	27:24.6	574298	6.35303E+12	5.77593E+13	5397.27	0.0264225	0.0261908	0.0697494	0.8175122	0.8103434	2.1256743	2.1256743
147	32:27.7	574300	6.35303E+12	5.74492E+13	5392.2	0.0264225	0.0269438	0.07006	0.8175122	0.8336412	2.1351406	2.1351406
148	37:31.8	574301	6.35303E+12	5.7613E+13	5391.27	0.0264225	0.0860346	0.0698488	0.8175122	2.6619105	2.1287047	2.6619105
149	42:35.9	574301	6.35303E+12	5.7613E+13	5391.55	0.0264225	0.2246863	0.0698524	0.8175122	6.9517941	2.1288153	6.9517941
150	47:40.3	574302	6.35303E+12	5.77583E+13	5397.52	0.0264225	0.1597185	0.0697538	0.8175122	4.9416904	2.1285102	4.9416904
151	52:44.3	574302	6.35303E+12	5.77583E+13	5396.44	0.0264225	0.1817049	0.0697399	0.8175122	5.6219496	2.1253849	5.6219496
152	57:48.1	574305	6.35303E+12	5.8471E+13	5390.94	0.0264225	0.1794976	0.0688196	0.8175122	5.5536557	2.097339	5.5536557
153	02:52.0	574305	6.35303E+12	5.8471E+13	5391.58	0.0287826	0.2238323	0.0688278	0.8905336	6.9253714	2.097588	6.9253714
154	07:55.1	574305	6.35303E+12	5.8471E+13	5393.02	0.0287826	0.0385992	0.0688461	0.8905336	1.1942592	2.0981483	2.0981483
155	12:58.1	574306	6.35303E+12	5.85526E+13	5393.03	0.0287826	0.0287708	0.0687504	0.8905336	0.8901686	2.0952297	2.0952297
156	18:01.0	574309	6.35303E+12	6.00748E+13	5395.99	0.0287826	0.0257429	0.0670451	0.8905336	0.7964853	2.0432598	2.0432598
157	23:03.8	574309	6.35303E+12	6.00748E+13	5395.98	0.0287826	0.02657	0.067045	0.8905336	0.8220758	2.043256	2.043256
158	28:06.6	574310	6.35303E+12	6.02983E+13	5397.49	0.0287826	0.0264104	0.0668152	0.8905336	0.8171378	2.0362532	2.0362532
159	33:09.8	574311	6.35303E+12	6.01255E+13	5398.95	0.0287826	0.0307465	0.0670253	0.8905336	0.9518536	2.0426553	2.0426553
160	38:13.1	574312	6.35303E+12	5.99055E+13	5397.51	0.0287826	0.0307598	0.0672535	0.8905336	0.9517082	2.0496101	2.0496101
161	43:15.9	574312	6.35303E+12	5.99055E+13	5396.26	0.0287826	0.0308105	0.0672379	0.8905336	0.9532769	2.0491354	2.0491354
162	48:18.6	574314	6.35303E+12	5.98595E+13	5395.6	0.0287826	0.0265074	0.0672813	0.8905336	0.820139	2.0504592	2.0504592
163	53:21.7	574315	6.35303E+12	5.97623E+13	5391.83	0.0287826	0.029322	0.0673437	0.8905336	0.9072227		

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
190	14:45.4	574327	6.35303E+12	5.96067E+13	5402.51	0.0307976	0.0281076	0.0676532	0.9528777	0.8696491	2.0617928	2.0617928
191	19:48.1	574328	6.35303E+12	5.96752E+13	5405.01	0.0307976	0.0263111	0.0676069	0.9528777	0.8140654	2.0603812	2.0603812
192	24:52.0	574328	6.35303E+12	5.96752E+13	5405.56	0.0307976	0.0278043	0.0676138	0.9528777	0.860265	2.0605909	2.0605909
193	29:55.2	574328	6.35303E+12	5.96752E+13	5413.98	0.0307976	0.0275948	0.0677191	0.9528777	0.8537831	2.0638005	2.0638005
194	34:58.7	574329	6.35303E+12	5.94855E+13	5414.16	0.0307976	0.0277464	0.0679373	0.9528777	0.8584736	2.0704516	2.0704516
195	40:01.7	574330	6.35303E+12	5.97035E+13	5414.01	0.0307976	0.0277264	0.0676874	0.9528777	0.8578548	2.0628341	2.0628341
196	50:08.1	574333	6.35303E+12	5.9734E+13	5408.31	0.0307976	0.0275529	0.0675816	0.9528777	0.8524867	2.0596102	2.0596102
197	55:11.1	574333	6.35303E+12	5.9734E+13	5400.01	0.0307976	0.0275835	0.0674779	0.9528777	0.8534335	2.0564494	2.0564494
198	00:14.4	574334	6.35303E+12	5.92562E+13	5403.11	0.0296508	0.0278574	0.068061	0.9173958	0.861908	2.0742213	2.0742213
199	05:17.4	574335	6.35303E+12	5.9018E+13	5400.72	0.0296508	0.0288549	0.0683055	0.9173958	0.8927706	2.0816708	2.0816708
200	10:20.4	574337	6.35303E+12	6.04407E+13	5401.43	0.0296508	0.0276696	0.0667064	0.9173958	0.8560974	2.0329364	2.0329364
201	15:23.6	574337	6.35303E+12	6.04407E+13	5403.84	0.0296508	0.0274339	0.0667361	0.9173958	0.8488049	2.0338434	2.0338434
202	20:26.4	574340	6.35303E+12	6.01388E+13	5404.02	0.0296508	0.0269979	0.0670734	0.9173958	0.835315	2.044123	2.044123
203	25:29.5	574342	6.35303E+12	6.0482E+13	5407.99	0.0296508	0.0274831	0.0667418	0.9173958	0.8503271	2.0340152	2.0340152
204	30:32.3	574342	6.35303E+12	6.0482E+13	5405.55	0.0296508	0.0264784	0.0667116	0.9173958	0.8192417	2.0330975	2.0330975
205	35:35.1	574343	6.35303E+12	5.99395E+13	5400.01	0.0296508	0.0271096	0.0672465	0.9173958	0.838771	2.0493965	2.0493965
206	40:37.9	574343	6.35303E+12	5.99395E+13	5399.02	0.0296508	0.0269728	0.0672341	0.9173958	0.8345384	2.0490207	2.0490207
207	50:43.2	574344	6.35303E+12	5.95861E+13	5394.85	0.0296508	0.0269754	0.0675807	0.9173958	0.8364189	2.0595816	2.0595816
208	55:45.9	574344	6.35303E+12	5.95861E+13	5398.35	0.0296508	0.0271175	0.0676245	0.9173958	0.8407945	2.0609177	2.0609177
209	00:50.4	574345	6.35303E+12	5.83668E+13	5398.44	0.0287107	0.0234886	0.0690384	0.8883091	0.7162253	2.1040074	2.1040074
210	05:53.3	574346	6.35303E+12	5.84022E+13	5394.51	0.0287107	0.0273792	0.0689463	0.8883091	0.8471124	2.1012014	2.1012014
211	10:57.2	574347	6.35303E+12	5.86008E+13	5396.65	0.0287107	0.0274463	0.0687399	0.8883091	0.8491885	2.0949115	2.0949115
212	16:00.2	574347	6.35303E+12	5.86008E+13	5399.98	0.0287107	0.0276066	0.0687824	0.8883091	0.8541482	2.0962041	2.0962041
213	21:03.3	574348	6.35303E+12	5.87322E+13	5397.6	0.0287107	0.0272933	0.0685982	0.8883091	0.8444547	2.0905929	2.0905929
214	26:08.2	574348	6.35303E+12	5.87322E+13	5396.94	0.0287107	0.0230447	0.0685898	0.8883091	0.71287214	2.0903373	2.1287214
215	31:11.2	574349	6.35303E+12	5.84595E+13	5395.06	0.0287107	0.0273191	0.0688857	0.8883091	1.154653	2.0993542	2.0993542
216	36:14.1	574350	6.35303E+12	5.91267E+13	5395.1	0.0287107	0.0277184	0.0681089	0.8883091	0.8576073	2.0756815	2.0756815
217	41:17.0	574350	6.35303E+12	5.91267E+13	5395.85	0.0287107	0.0254001	0.0681184	0.8883091	0.7860029	2.0759701	2.0759701
218	46:19.8	574351	6.35303E+12	5.92508E+13	5395.02	0.0287107	0.0261363	0.0679653	0.8883091	0.8086571	2.071303	2.071303
219	51:22.9	574351	6.35303E+12	5.92508E+13	5393.06	0.0287107	0.0253253	0.0679406	0.8883091	0.783571	2.0705505	2.0705505
220	01:28.4	574351	6.35303E+12	5.92508E+13	5390.01	0.0299929	0.02562	0.0679022	0.9279803	0.7926828	2.0693795	2.0693795
221	06:31.2	574351	6.35303E+12	5.92508E+13	5374.44	0.0299929	0.0230599	0.067706	0.9279803	0.7134733	2.0634017	2.0634017
222	11:34.1	574351	6.35303E+12	5.92508E+13	5371.81	0.0299929	0.0231322	0.0676729	0.9279803	0.7157103	2.062392	2.062392
223	16:37.1	574352	6.35303E+12	5.79249E+13	5372.6	0.0299929	0.0247667	0.0692321	0.9279803	0.7662817	2.1099115	2.1099115
224	26:42.4	574353	6.35303E+12	5.95341E+13	5384.99	0.0299929	0.0253569	0.0675161	0.9279803	0.7848209	2.0576131	2.0576131
225	31:45.3	574353	6.35303E+12	5.95341E+13	5393.61	0.0299929	0.025794	0.0676241	0.9279803	0.7980664	2.0609068	2.0609068
226	41:50.8	574353	6.35303E+12	5.95341E+13	5401.49	0.0299929	0.0254275	0.0677229	0.9279803	0.7867268	2.0639177	2.0639177
227	46:53.9	574356	6.35303E+12	6.01278E+13	5393.39	0.0299929	0.023825	0.0669538	0.9279803	0.7371455	2.0404768	2.0404768
228	51:57.5	574356	6.35303E+12	6.01278E+13	5401.9	0.0299929	0.0253189	0.0670594	0.9279803	0.7833668	2.0436963	2.0436963
229	57:00.7	574357	6.35303E+12	5.98782E+13	5404.01	0.0299929	0.0224156	0.0673653	0.9279803	0.6935387	2.0530169	2.0530169
230	02:03.8	574357	6.35303E+12	5.98782E+13	5410.44	0.036492	0.022551	0.0674454	1.1290625	0.6885728	2.0554597	2.0554597
231	07:07.6	574357	6.35303E+12	5.98782E+13	5413.48	0.036492	0.0220381	0.0674833	1.1290625	0.6818588	2.0566147	2.0566147
232	12:11.1	574359	6.35303E+12	5.99023E+13	5412.99	0.036492	0.0222681	0.0674501	1.1290625	0.688975	2.0556012	2.0556012
233	17:14.5	574360	6.35303E+12	6.0023E+13	5413.64	0.036492	0.0223594	0.0673224	1.1290625	0.6917998	2.0517109	2.0517109
234	22:17.6	574360	6.35303E+12	6.0023E+13	5409.57	0.036492	0.0232117	0.0672718	1.1290625	0.71817	2.0501684	2.0501684
235	27:20.8	574360	6.35303E+12	6.0023E+13	5403.2	0.036492	0.022951	0.0671926	1.1290625	0.7101039	2.0477543	2.0477543
236	32:24.8	574361	6.35303E+12	5.95038E+13	5409.65	0.036492	0.0250046	0.0678598	1.1290625	0.7736423	2.068088	2.068088
237	37:27.9	574361	6.35303E+12	5.95038E+13	5414.99	0.036492	0.0365942	0.0679268	1.1290625	1.1322245	2.0701294	2.0701294
238	42:31.0	574362	6.35303E+12	5.87448E+13	5422.88	0.036492	0.0243161	0.0689047	1.1290625	0.7523401	2.0999322	2.0999322
239	47:34.5	574362	6.35303E+12	5.87448E+13	5432.58	0.036492	0.0229003	0.0690279	1.1290625	0.7085353	2.1036884	2.1036884
240	52:37.7	574362	6.35303E+12	5.87448E+13	5428.01	0.036492	0.0245215	0.0689699	1.1290625	0.7586952	2.1019188	2.1019188
241	57:42.1	574363	6.35303E+12	5.80502E+13	5427.15	0.036492	0.0332235	0.0697841	1.1290625	1.0279351	2.1267343	2.1267343
242	02:45.1	574364	6.35303E+12	5.78645E+13	5427.23	0.0274366	0.0490236	0.0700091	1.5167902	1.5167902	2.1335902	2.1335902
243	07:48.2	574364	6.35303E+12	5.78645E+13	5441.99	0.0274366	0.0440093	0.0701995	0.8488884	1.3642529	2.1393928	2.1393928
244	12:51.1	574365	6.35303E+12	5.73396E+13	5428.97	0.0274366	0.0247736	0.0706726	0.8488884	0.7664952	2.1538115	2.1538115
245	17:54.2	574367	6.35303E+12	5.84533E+13	5439.06	0.0274366	0.0251483	0.069455	0.8488884	0.7780884	2.1167024	2.1167024
246	22:58.5	574367	6.35303E+12	5.84533E+13	5434.48	0.0274366	0.0235975	0.0693965	0.8488884	0.7301067	2.1149201	2.1149201
247	28:01.7	574368	6.35303E+12	5.81378E+13	5438.3	0.0274366	0.0218651	0.0698221	0.8488884	0.6765062	2.1278923	2.1278923
248	33:04.7	574368	6.35303E+12	5.81378E+13	5439.66	0.0274366	0.0251412	0.0698396	0.8488884	0.6664847	2.1284244	2.1284244
249	38:08.0	574369	6.35303E+12	5.7527E+13	5442.57	0.0274366	0.021035	0.0706189	0.8488884	0.6508229	2.1521741	2.1521741
250	43:11.1	574370	6.35303E+12	5.73316E+13	5444.99	0.0274366	0.0203824	0.0708911	0.8488884	0.6306315	2.1604697	2.1604697
251	48:14.4	574370	6.35303E+12	5.73316E+13	5471.73	0.0274366	0.0203027	0.0712392	0.8488884	0.6281655	2.1710796	2.1710796
252	53:17.3	574370	6.35303E+12	5.73316E+13	5469.28	0.0274366	0.0199351	0.0712073	0.8488884	0.616792	2.1701075	2.1701075
253	58:21.3	574373	6.35303E+12	5.75391E+13	5468.81	0.0274366	0.0202047	0.0709444	0.8488884	0.6251334	2.1620944	2.1620944
254	03:24.3	574373	6.35303E+12	5.75391E+13	5471.06	0.0211425	0.0198863	0.0709736	0.654149	0.6152821	2.1629839	2.1629839
255	08:27.3	574374	6.35303E+12	5.70787E+13	5464.23	0.0211425	0.0196411	0.0714567	0.654149	0.6076956	2.177708	2.177708
256	13:30.2	574374	6.35303E+12	5.70787E+13	5456.01	0.0211425	0.0200366	0.0713492	0.654149	0.6199324	2.1744321	2.1744321
257	18:33.0	574375	6.35303E+12	5.67247E+13	5460.16	0.0211425	0.0197672	0.0718491	0.654149	0.6115972		

1	A	B	C	D	E	F	G	H	I	J	K	L
	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_UMP	real_time_UMP	breakeven_mining_cost	day_ahead_UMP_rev	real_time_UMP_rev	mining_rev	realized_rev
284	50:33.9	574395	6.35303E+12	5.53825E+13	5520.48	0.0173139	0.0198422	0.0744034	0.5356921	0.6139177	2.2675111	2.2675111
285	55:36.8	574395	6.35303E+12	5.53825E+13	5515.98	0.0173139	0.0194883	0.0743428	0.5356921	0.602968	2.2656627	2.2656627
286	00:39.8	574395	6.35303E+12	5.53825E+13	5518.69	0.0179626	0.019462	0.0743793	0.5557628	0.6021543	2.2667759	2.2667759
287	05:43.2	574395	6.35303E+12	5.53825E+13	5531.68	0.0179626	0.0194192	0.0745544	0.5557628	0.60083	2.2721114	2.2721114
288	10:46.2	574395	6.35303E+12	5.53825E+13	5530.89	0.0179626	0.0192349	0.0745437	0.5557628	0.5951278	2.2717869	2.2717869
289	15:49.8	574396	6.35303E+12	5.44713E+13	5541.2	0.0179626	0.0191897	0.075932	0.5557628	0.5937293	2.3140947	2.3140947
290	20:52.7	574396	6.35303E+12	5.44713E+13	5544.69	0.0179626	0.0191963	0.0759798	0.5557628	0.5939335	2.3155521	2.3155521
291	25:55.6	574396	6.35303E+12	5.44713E+13	5552.98	0.0179626	0.0192925	0.0760934	0.5557628	0.59691	2.3190142	2.3190142
292	30:58.6	574397	6.35303E+12	5.38389E+13	5536.99	0.0179626	0.0189288	0.0767654	0.5557628	0.5856571	2.3394943	2.3394943
293	36:02.2	574397	6.35303E+12	5.38389E+13	5549.99	0.0179626	0.0191736	0.0769456	0.5557628	0.5932312	2.3449871	2.3449871
294	41:05.2	574397	6.35303E+12	5.38389E+13	5578.73	0.0179626	0.019072	0.0773441	0.5557628	0.5900877	2.3571303	2.3571303
295	46:08.4	574397	6.35303E+12	5.38389E+13	5587.27	0.0179626	0.0191605	0.0774625	0.5557628	0.5928259	2.3607386	2.3607386
296	51:11.5	574397	6.35303E+12	5.38389E+13	5577.62	0.0179626	0.019671	0.0773287	0.5557628	0.6086207	2.3566613	2.3566613
297	56:14.6	574397	6.35303E+12	5.38389E+13	5578.43	0.0179626	0.019726	0.0773399	0.5557628	0.6103224	2.3570036	2.3570036
298	01:18.0	574398	6.35303E+12	5.24135E+13	5585.77	0.0181708	0.020031	0.0795478	0.5622046	0.6197591	2.42429	2.42429
299	06:21.5	574399	6.35303E+12	5.22154E+13	5570.36	0.0181708	0.0201913	0.0796293	0.5622046	0.6247188	2.4267736	2.4267736
300	11:24.3	574400	6.35303E+12	5.19602E+13	5563.2	0.0181708	0.0200017	0.0799175	0.5622046	0.6188526	2.4355582	2.4355582
301	16:27.3	574400	6.35303E+12	5.19602E+13	5579.23	0.0181708	0.0200965	0.0801478	0.5622046	0.6217857	2.4425761	2.4425761
302	21:30.3	574400	6.35303E+12	5.19602E+13	5571.91	0.0181708	0.0200908	0.0800426	0.5622046	0.6216094	2.4393714	2.4393714
303	26:33.2	574401	6.35303E+12	5.14241E+13	5570.27	0.0181708	0.0202515	0.0808533	0.5622046	0.6265814	2.4640783	2.4640783
304	31:36.5	574402	6.35303E+12	5.15991E+13	5562.53	0.0181708	0.0202163	0.0804671	0.5622046	0.6254923	2.4523071	2.4523071
305	36:39.4	574402	6.35303E+12	5.15991E+13	5598.28	0.0181708	0.0209438	0.0809843	0.5622046	0.6480012	2.4680679	2.4680679
306	41:42.1	574404	6.35303E+12	5.22163E+13	5622.51	0.0181708	0.0204391	0.0803735	0.5622046	0.6323858	2.4494541	2.4494541
307	46:45.3	574405	6.35303E+12	5.26766E+13	5610.46	0.0181708	0.022443	0.0795004	0.5622046	0.6943864	2.4228448	2.4228448
308	51:48.2	574406	6.35303E+12	5.44332E+13	5697.34	0.0181708	0.0205015	0.0781261	0.5622046	0.6343164	2.3809636	2.3809636
309	56:50.9	574407	6.35303E+12	5.44179E+13	5660.07	0.0181708	0.020423	0.077637	0.5622046	0.6318876	2.3660567	2.3660567
310	06:56.4	574408	6.35303E+12	5.43366E+13	5661.93	0.0189944	0.0199466	0.0777787	0.5876867	0.6171478	2.3703744	2.3703744
311	11:59.9	574409	6.35303E+12	5.45039E+13	5688.4	0.0189944	0.0202274	0.0779024	0.5876867	0.6258358	2.3741451	2.3741451
312	17:03.3	574409	6.35303E+12	5.45039E+13	5705.82	0.0189944	0.0204858	0.0781409	0.5876867	0.6338307	2.3814156	2.3814156
313	22:06.7	574409	6.35303E+12	5.45039E+13	5684.26	0.0189944	0.0228673	0.0778457	0.5876867	0.7075143	2.3724172	2.3724172
314	27:09.6	574410	6.35303E+12	5.4739E+13	5675.94	0.0189944	0.0210179	0.0773979	0.5876867	0.6502938	2.3587711	2.3587711
315	32:12.9	574410	6.35303E+12	5.4739E+13	5704.8	0.0189944	0.0219318	0.0777915	0.5876867	0.6785699	2.3707646	2.3707646
316	37:15.9	574410	6.35303E+12	5.4739E+13	5701.98	0.0189944	0.0220176	0.077753	0.5876867	0.6812245	2.3695926	2.3695926
317	42:18.6	574410	6.35303E+12	5.4739E+13	5732.34	0.0189944	0.0217753	0.078167	0.5876867	0.6737278	2.3822095	2.3822095
318	47:21.8	574410	6.35303E+12	5.4739E+13	5753.01	0.0189944	0.0233293	0.0784489	0.5876867	0.7218085	2.3907994	2.3907994
319	52:25.1	574410	6.35303E+12	5.4739E+13	5756.81	0.0189944	0.0238745	0.0785007	0.5876867	0.738677	2.3923786	2.3923786
320	57:27.9	574412	6.35303E+12	5.33495E+13	5791.51	0.0189944	0.0451717	0.0810308	0.5876867	1.3976124	2.4694857	2.4694857
321	02:31.0	574412	6.35303E+12	5.33495E+13	5778.34	0.0239869	0.0254874	0.0808465	0.7421547	0.7885802	2.46387	2.46387
322	07:34.0	574412	6.35303E+12	5.33495E+13	5695.4	0.0239869	0.0228529	0.0796861	0.7421547	0.7070687	2.4285046	2.4285046
323	12:36.8	574412	6.35303E+12	5.33495E+13	5717.23	0.0239869	0.0236822	0.0799915	0.7421547	0.7327273	2.4378128	2.4378128
324	22:41.7	574413	6.35303E+12	5.25253E+13	5730.11	0.0239869	0.025552	0.0814296	0.7421547	0.6978579	2.4816407	2.4816407
325	27:44.8	574413	6.35303E+12	5.25253E+13	5715.55	0.0239869	0.0259265	0.0812227	0.7421547	0.8021659	2.475335	2.475335
326	32:47.7	574414	6.35303E+12	5.19701E+13	5734.99	0.0239869	0.025733	0.0823697	0.7421547	0.796179	2.5102894	2.5102894
327	37:50.9	574414	6.35303E+12	5.19701E+13	5743.05	0.0239869	0.0260107	0.0824854	0.7421547	0.8047711	2.5138174	2.5138174
328	42:53.7	574416	6.35303E+12	5.19215E+13	5725.93	0.0239869	0.0259129	0.0823165	0.7421547	0.8017451	2.5086707	2.5086707
329	47:56.5	574419	6.35303E+12	5.263E+13	5733.81	0.0239869	0.0228376	0.0813201	0.7421547	0.7065953	2.4783037	2.4783037
330	52:59.1	574420	6.35303E+12	5.25895E+13	5702.24	0.0239869	0.0369356	0.0809348	0.7421547	1.1427875	2.4665598	2.4665598
331	58:01.8	574421	6.35303E+12	5.25734E+13	5674.41	0.0239869	0.0239106	0.0805643	0.7421547	0.739794	2.4552707	2.4552707
332	03:04.8	574422	6.35303E+12	5.2543E+13	5686.55	0.0273845	0.0222843	0.0807834	0.8472764	0.6894762	2.4619458	2.4619458
333	08:08.0	574424	6.35303E+12	5.28202E+13	5686.98	0.0273845	0.0222021	0.0803655	0.8472764	0.6868989	2.4492125	2.4492125
334	13:10.8	574424	6.35303E+12	5.28202E+13	5696.24	0.0273845	0.0222756	0.0804964	0.8472764	0.6892071	2.4532005	2.4532005
335	18:13.9	574424	6.35303E+12	5.28202E+13	5678.52	0.0273845	0.0287661	0.080246	0.8472764	0.8900231	2.445569	2.445569
336	23:16.6	574426	6.35303E+12	5.30049E+13	5680.01	0.0273845	0.0279874	0.0799874	0.8472764	1.5319879	2.4376872	2.4376872
337	28:20.7	574427	6.35303E+12	5.28466E+13	5679.28	0.0273845	0.2410973	0.0802166	0.8472764	7.4595505	2.4446732	2.4595505
338	33:24.6	574427	6.35303E+12	5.28466E+13	5698.99	0.0273845	0.2542574	0.080495	0.8472764	7.2234257	2.531574	2.7234257
339	38:27.3	574427	6.35303E+12	5.28466E+13	5702.85	0.0273845	0.0497981	0.0805495	0.8472764	1.5407532	2.454819	2.454819
340	43:30.1	574428	6.35303E+12	5.2354E+13	5722.4	0.0273845	0.028405	0.0815862	0.8472764	0.8788569	2.4864117	2.4864117
341	48:33.4	574428	6.35303E+12	5.2354E+13	5723.27	0.0273845	0.0286907	0.0815986	0.8472764	0.8876903	2.4867897	2.4867897
342	53:36.4	574428	6.35303E+12	5.2354E+13	5711.78	0.0273845	0.0289323	0.0814347	0.8472764	0.8951654	2.4817972	2.4817972
343	58:39.1	574429	6.35303E+12	5.15634E+13	5700.85	0.0273845	0.0244206	0.0825252	0.8472764	0.7555734	2.5150298	2.5150298
344	03:41.9	574429	6.35303E+12	5.15634E+13	5699.99	0.0280847	0.022925	0.0825128	0.8689406	0.7092995	2.5146504	2.5146504
345	08:44.7	574429	6.35303E+12	5.15634E+13	5715.88	0.0280847	0.0237192	0.0827428	0.8689406	0.733872	2.5216605	2.5216605
346	13:47.4	574430	6.35303E+12	5.12815E+13	5716.7	0.0280847	0.0238876	0.0832095	0.8689406	0.7390823	2.5358831	2.5358831
347	18:50.2	574430	6.35303E+12	5.12815E+13	5707.94	0.0280847	0.0242522	0.0830819	0.8689406	0.7503631	2.5319972	2.5319972
348	23:53.1	574430	6.35303E+12	5.12815E+13	5728.45	0.0280847	0.024234	0.0833805	0.8689406	0.7498	2.5410953	2.5410953
349	28:55.9	574430	6.35303E+12	5.12815E+13	5736.02	0.0280847	0.0243241	0.0834907	0.8689406	0.7525877	2.5444533	2.5444533
350	33:59.1	574430	6.35303E+12	5.12815E+13	5740.86	0.0280847	0.0252158	0.0835611	0.8689406	0.7801769	2.5466002	2.5466002
351	44:04.4	574430	6.35303E+12	5.12815E+13	5732.1	0.0280847	0.0252418	0.0834336	0.8689406	0.7809813	2.5427144	2.5427144
352	49:07.5	574431	6.35303E+12	4.9								

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	00:26.7	574448	6.35303E+12	5.19511E+13	5721.44	0.0298141	0.0274938	0.082205	0.9224483	0.8506582	2.5052726	2.5052726
379	05:29.8	574448	6.35303E+12	5.19511E+13	5706.98	0.0298141	0.025617	0.0819973	0.9224483	0.79259	2.4989409	2.4989409
380	10:32.8	574449	6.35303E+12	5.17328E+13	5701.52	0.0298141	0.0262028	0.0822646	0.9224483	0.8107146	2.5070865	2.5070865
381	15:35.6	574450	6.35303E+12	5.16724E+13	5720.36	0.0298141	0.0265338	0.0826329	0.9224483	0.8209558	2.5183117	2.5183117
382	20:38.2	574450	6.35303E+12	5.16724E+13	5715.9	0.0298141	0.0262195	0.0825685	0.9224483	0.8112313	2.5163482	2.5163482
383	25:41.0	574450	6.35303E+12	5.16724E+13	5710.01	0.0298141	0.0263037	0.0824834	0.9224483	0.8138365	2.5137552	2.5137552
384	30:43.8	574450	6.35303E+12	5.16724E+13	5720.01	0.0298141	0.02601	0.0826278	0.9224483	0.8047494	2.5181576	2.5181576
385	35:46.6	574450	6.35303E+12	5.16724E+13	5725.31	0.0298141	0.026584	0.0827044	0.9224483	0.822509	2.5204908	2.5204908
386	40:49.3	574452	6.35303E+12	5.09821E+13	5714.39	0.0298141	0.0267055	0.0836643	0.9224483	0.8262682	2.5497457	2.5497457
387	45:52.2	574454	6.35303E+12	5.11925E+13	5720.01	0.0298141	0.0254888	0.0834024	0.9224483	0.7886235	2.5417623	2.5417623
388	50:55.0	574454	6.35303E+12	5.11925E+13	5704.48	0.0298141	0.0247314	0.0831759	0.9224483	0.7651895	2.5348614	2.5348614
389	55:58.0	574454	6.35303E+12	5.11925E+13	5713.35	0.0298141	0.0244232	0.0833053	0.9224483	0.7556538	2.5388029	2.5388029
390	01:00.9	574454	6.35303E+12	5.11925E+13	5714.69	0.0322754	0.0256095	0.0833248	0.9986009	0.7923579	2.5393983	2.5393983
391	06:03.7	574454	6.35303E+12	5.11925E+13	5710.33	0.0322754	0.024586	0.0832612	0.9986009	0.7606908	2.5374609	2.5374609
392	11:06.7	574454	6.35303E+12	5.11925E+13	5705.52	0.0322754	0.0249145	0.0831911	0.9986009	0.7708546	2.5353235	2.5353235

Bearbox v Lancium
Trial Exhibit
TX920-4

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Appx13423

BB10000915

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
2	19:54.2	574204	6.35303E+12	5.38327E+13	5320.43	0.00578	0.004853	0.0737715	0.1788332	0.1501518	2.2482519	2.2482519
3	24:57.5	574204	6.35303E+12	5.38327E+13	5320.01	0.00578	0.0059132	0.0737656	0.1788332	0.1829544	2.2480744	2.2480744
4	30:00.6	574204	6.35303E+12	5.38327E+13	5319.98	0.00578	0.0058605	0.0737652	0.1788332	0.1813239	2.2480617	2.2480617
5	35:04.1	574205	6.35303E+12	5.30839E+13	5323.01	0.00578	0.0046039	0.0748484	0.1788332	0.1424447	2.2810714	2.2810714
6	40:07.2	574205	6.35303E+12	5.30839E+13	5321.94	0.00578	0.0032873	0.0748333	0.1788332	0.1017091	2.2806129	2.2806129
7	45:10.6	574206	6.35303E+12	5.44532E+13	5326.51	0.00578	0.0019272	0.0730143	0.1788332	0.0596276	2.2251767	2.2251767
8	50:13.5	574206	6.35303E+12	5.44532E+13	5326.54	0.00578	0.0070844	0.0730147	0.1788332	0.2191913	2.2251893	2.2251893
9	55:16.9	574207	6.35303E+12	5.39845E+13	5328.24	0.00578	0.0006523	0.0736721	0.1788332	0.0201822	2.2452223	2.2452223
10	00:20.2	574207	6.35303E+12	5.39845E+13	5325.77	0.0088315	0.0022674	0.0736379	0.0257266	0.0701534	2.2441815	2.2441815
11	05:23.2	574208	6.35303E+12	5.34662E+13	5325.77	0.0008315	-0.0037312	0.0743518	0.0257266	-0.1154433	2.2659373	2.2659373
12	10:26.1	574208	6.35303E+12	5.34662E+13	5325.01	0.0008315	-0.0087112	0.0743412	0.0257266	-0.2695245	2.2656139	2.2656139
13	15:29.1	574209	6.35303E+12	5.33477E+13	5321.31	0.0008315	0.0006042	0.0744545	0.0257266	0.0186939	2.2690675	2.2690675
14	20:32.0	574209	6.35303E+12	5.33477E+13	5321.01	0.0008315	0.0008759	0.0744503	0.0257266	0.0271003	2.2689395	2.2689395
15	25:36.1	574210	6.35303E+12	5.36221E+13	5326.26	0.0008315	-0.0192181	0.0741425	0.0257266	-0.594608	2.2595592	2.2595592
16	30:39.1	574212	6.35303E+12	5.54528E+13	5327.73	0.0008315	-0.0318283	0.0717145	0.0257266	-0.984676	2.1855639	2.1855639
17	35:42.2	574213	6.35303E+12	5.51131E+13	5321.02	0.0008315	-0.0308899	0.0720657	0.0257266	-0.9557335	2.1962672	2.1962672
18	40:45.0	574215	6.35303E+12	5.58834E+13	5323.1	0.0008315	-0.0302146	0.0711001	0.0257266	-0.9348397	2.1668382	2.1668382
19	45:47.9	574215	6.35303E+12	5.58834E+13	5323.1	0.0008315	-0.0268742	0.0711001	0.0257266	-0.8314877	2.1668382	2.1668382
20	50:51.0	574215	6.35303E+12	5.58834E+13	5326.69	0.0008315	-0.0311753	0.071148	0.0257266	-0.9645638	2.1682995	2.1682995
21	55:53.8	574215	6.35303E+12	5.58834E+13	5326.69	0.0008315	-0.0321213	0.071148	0.0257266	-0.993833	2.1682995	2.1682995
22	00:56.7	574216	6.35303E+12	5.54406E+13	5328.81	0.0002678	-0.0312479	0.0717448	0.0082857	-0.96681	2.1864882	2.1864882
23	06:00.2	574216	6.35303E+12	5.54406E+13	5330.34	0.0002678	-0.0031224	0.0717654	0.0082857	-0.096601	2.187116	2.187116
24	11:03.3	574219	6.35303E+12	5.59245E+13	5326.73	0.0002678	-0.0192773	0.0710963	0.0082857	-0.5964397	2.1667245	2.1667245
25	16:06.7	574220	6.35303E+12	5.59914E+13	5330.77	0.0002678	-0.0176475	0.0710652	0.0082857	-0.5460137	2.1657754	2.1657754
26	21:09.7	574220	6.35303E+12	5.59914E+13	5343.69	0.0002678	-0.0277873	0.0712374	0.0082857	-0.8597391	2.1710246	2.1710246
27	26:12.7	574225	6.35303E+12	5.59876E+13	5336.9	0.0002678	-0.030291	0.0711518	0.0082857	-0.9372035	2.1684142	2.1684142
28	31:15.7	574226	6.35303E+12	5.60441E+13	5333.74	0.0002678	-0.0263247	0.0710379	0.0082857	-0.8144862	2.1649441	2.1649441
29	36:18.6	574227	6.35303E+12	5.56725E+13	5331.57	0.0002678	-0.0194362	0.071483	0.0082857	-0.601356	2.1785089	2.1785089
30	41:21.5	574227	6.35303E+12	5.56725E+13	5332.07	0.0002678	-0.0199701	0.0714897	0.0082857	-0.6178749	2.1787132	2.1787132
31	46:24.4	574227	6.35303E+12	5.56725E+13	5343.99	0.0002678	-0.0196127	0.0716495	0.0082857	-0.6068169	2.1835838	2.1835838
32	51:27.4	574228	6.35303E+12	5.52451E+13	5343.99	0.0002678	-0.0293809	0.0722038	0.0082857	-0.909045	2.2004762	2.2004762
33	56:30.6	574229	6.35303E+12	5.5892E+13	5328.81	0.0002678	-0.0237092	0.0711654	0.0082857	-0.7335626	2.1688293	2.1688293
34	01:33.6	574229	6.35303E+12	5.5892E+13	5339.09	0.0001906	-0.0188617	0.0713027	0.0058972	-0.583581	2.1730133	2.1730133
35	06:36.6	574229	6.35303E+12	5.5892E+13	5341.16	0.0001906	-0.0309174	0.0713303	0.0058972	-0.9565844	2.1738558	2.1738558
36	11:39.5	574230	6.35303E+12	5.53347E+13	5346.19	0.0001906	-0.0303878	0.0721165	0.0058972	-0.9401985	2.1978165	2.1978165
37	16:43.0	574230	6.35303E+12	5.53347E+13	5351.52	0.0001906	-0.0302747	0.0721884	0.0058972	-0.9366992	2.2000077	2.2000077
38	21:45.9	574231	6.35303E+12	5.49411E+13	5348.15	0.0001906	-0.0280594	0.0726599	0.0058972	-0.8681578	2.2143761	2.2143761
39	26:48.7	574231	6.35303E+12	5.49411E+13	5345.36	0.0001906	-0.0282238	0.072622	0.0058972	-0.8732444	2.2132209	2.2132209
40	31:52.1	574231	6.35303E+12	5.49411E+13	5345.35	0.0001906	-0.0268535	0.0726219	0.0058972	-0.8308473	2.2132168	2.2132168
41	36:55.6	574232	6.35303E+12	5.47061E+13	5345.57	0.0001906	-0.0274178	0.0729368	0.0058972	-0.8483067	2.222815	2.222815
42	41:58.8	574232	6.35303E+12	5.47061E+13	5346.06	0.0001906	-0.0274027	0.0729435	0.0058972	-0.8478395	2.2230187	2.2230187
43	47:01.8	574232	6.35303E+12	5.47061E+13	5364.94	0.0001906	-0.028909	0.0732011	0.0058972	-0.8944445	2.2308695	2.2308695
44	52:04.7	574232	6.35303E+12	5.47061E+13	5358.68	0.0001906	-0.028169	0.0731157	0.0058972	-0.8715489	2.2282664	2.2282664
45	57:07.9	574232	6.35303E+12	5.47061E+13	5363.38	0.0001906	-0.0263072	0.0731798	0.0058972	-0.8139602	2.2302208	2.2302208
46	02:11.0	574233	6.35303E+12	5.35475E+13	5374.99	0.002727	-0.0263014	0.074925	0.0843734	-0.8137653	2.283406	2.283406
47	07:14.0	574233	6.35303E+12	5.35475E+13	5371.65	0.002727	-0.0283313	0.0748784	0.0843734	-0.0876004	2.2819871	2.2819871
48	12:17.0	574233	6.35303E+12	5.35475E+13	5364.6	0.002727	-0.0008554	0.0747801	0.0843734	-0.0264661	2.2789921	2.2789921
49	17:20.3	574233	6.35303E+12	5.35475E+13	5366.68	0.002727	-0.0182652	0.0748091	0.0843734	-0.5651253	2.2798757	2.2798757
50	22:23.4	574234	6.35303E+12	5.31615E+13	5358.76	0.002727	-0.0019519	0.0752411	0.0843734	-0.0603918	2.2930408	2.2930408
51	27:26.4	574234	6.35303E+12	5.31615E+13	5358.18	0.002727	-0.0147848	0.075233	0.0843734	-0.4574417	2.2927926	2.2927926
52	32:29.3	574234	6.35303E+12	5.31615E+13	5349.69	0.002727	-0.0033411	0.0751138	0.0843734	-0.1033736	2.2891597	2.2891597
53	37:32.1	574235	6.35303E+12	5.26774E+13	5347.97	0.002727	-0.016204	0.0757796	0.0843734	-0.5013518	2.3094528	2.3094528
54	42:35.1	574236	6.35303E+12	5.29706E+13	5347.88	0.002727	-0.031637	0.075359	0.0843734	-0.9788488	2.2966332	2.2966332
55	47:38.0	574237	6.35303E+12	5.26741E+13	5352.24	0.002727	-0.0303036	0.075845	0.0843734	-0.9375934	2.3114455	2.3114455
56	52:40.8	574238	6.35303E+12	5.2719E+13	5350.15	0.002727	-0.0054995	0.0757508	0.0843734	-0.1701545	2.308573	2.308573
57	57:43.7	574238	6.35303E+12	5.2719E+13	5357.76	0.002727	-0.0016084	0.0758585	0.0843734	-0.0497639	2.3118566	2.3118566
58	02:46.6	574239	6.35303E+12	5.28168E+13	5351.07	0.0122937	-0.0317924	0.0756235	0.3803671	-0.9836569	2.3046947	2.3046947
59	07:49.3	574240	6.35303E+12	5.25658E+13	5350.11	0.0122937	-0.0305799	0.075971	0.3803671	-0.9461421	2.3152833	2.3152833
60	12:52.7	574242	6.35303E+12	5.34165E+13	5352.35	0.0122937	-2.70E-06	0.0747924	0.3803671	-8.35E-05	2.2793657	2.2793657
61	17:55.6	574243	6.35303E+12	5.35108E+13	5355.51	0.0122937	0.0030845	0.0747047	0.3803671	0.0118964	2.2766932	2.2766932
62	22:58.3	574245	6.35303E+12	5.38531E+13	5358.7	0.0122937	0.000944	0.074274	0.3803671	0.0292074	2.2635674	2.2635674
63	28:01.2	574246	6.35303E+12	5.41667E+13	5358.74	0.0122937	-0.0033438	0.0738446	0.3803671	-0.1034572	2.2504797	2.2504797
64	33:04.2	574246	6.35303E+12	5.41667E+13	5361.99	0.0122937	-0.001393	0.0738894	0.3803671	-0.0430994	2.2518446	2.2518446
65	38:07.1	574246	6.35303E+12	5.41667E+13	5364.93	0.0122937	0.0048462	0.0739299	0.3803671	0.1499414	2.2530793	2.2530793
66	43:10.0	574247	6.35303E+12	5.37144E+13	5365.93	0.0122937	0.0158818	0.0745663	0.3803671	-0.4821009	2.2724742	2.2724742
67	48:12.9	574249	6.35303E+12	5.43573E+13	5360.33	0.0122937	-0.0014069	0.0736074	0.3803671	-0.0435295	2.2432526	2.2432526
68	53:15.7	574251	6.35303E+12	5.52479E+13	5359.19	0.0122937	0.0018241	0.0724055	0.3803671	0.0564377	2.2066234	2.2066234
69	58:18.7	574252	6.35303E+12	5.50584E+13	5357.99	0.0122937	0.0017661	0.0726385	0.3803671	0.0546431	2.2137229	2.2137229
70	03:21.9	574252	6.35303E+12	5.50584E+13	5360.64	0.0171962	0.0051394	0.0726744	0.5320504	0.1590		

1	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
96	14:43.6	574269	6.35303E+12	5.58958E+13	5342.94	0.0193084	0.0088646	0.0713492	0.5974019	0.2742707	2.1744317	2.1744317
97	19:46.6	574270	6.35303E+12	5.6144E+13	5354.22	0.0193084	0.0082941	0.0711837	0.5974019	0.2566195	2.1693883	2.1693883
98	24:49.9	574271	6.35303E+12	5.6095E+13	5356.83	0.0193084	0.0080762	0.0712807	0.5974019	0.2498776	2.1723438	2.1723438
99	29:52.8	574271	6.35303E+12	5.6095E+13	5351.83	0.0193084	0.0079524	0.0712142	0.5974019	0.2460473	2.1703161	2.1703161
100	34:55.7	574272	6.35303E+12	5.54087E+13	5355.01	0.0193084	0.0081254	0.0721391	0.5974019	0.2513999	2.1985034	2.1985034
101	39:58.5	574273	6.35303E+12	5.53104E+13	5355.83	0.0193084	0.0085607	0.0722783	0.5974019	0.2648681	2.2027469	2.2027469
102	45:01.9	574274	6.35303E+12	5.53441E+13	5354.54	0.0193084	0.0106324	0.072217	0.5974019	0.3289665	2.2008772	2.2008772
103	50:05.0	574274	6.35303E+12	5.53441E+13	5352.64	0.0193084	0.0119823	0.0721913	0.5974019	0.3707324	2.2000962	2.2000962
104	55:07.9	574274	6.35303E+12	5.53441E+13	5355.99	0.0193084	0.0171955	0.0722365	0.5974019	0.5320288	2.2014732	2.2014732
105	00:10.9	574274	6.35303E+12	5.53441E+13	5375.12	0.021824	0.014679	0.0724945	0.6752346	0.4541683	2.2093362	2.2093362
106	05:13.9	574274	6.35303E+12	5.53441E+13	5371.63	0.021824	0.0098275	0.0724475	0.6752346	0.3040628	2.2079017	2.2079017
107	10:17.8	574274	6.35303E+12	5.53441E+13	5366.65	0.021824	0.0157044	0.0723803	0.6752346	0.4858941	2.2058548	2.2058548
108	15:20.8	574274	6.35303E+12	5.53441E+13	5362.88	0.021824	0.0161219	0.0723295	0.6752346	0.4988116	2.2043052	2.2043052
109	20:23.7	574275	6.35303E+12	5.36343E+13	5367	0.021824	0.016142	0.07246925	0.6752346	0.4994335	2.2763203	2.2763203
110	25:26.5	574275	6.35303E+12	5.36343E+13	5371.56	0.021824	0.0159439	0.0747559	0.6752346	0.4933043	2.2782544	2.2782544
111	30:29.4	574276	6.35303E+12	5.309E+13	5370.52	0.021824	0.0201562	0.0755079	0.6752346	0.6236328	2.3011697	2.3011697
112	35:32.1	574278	6.35303E+12	5.49235E+13	5373.23	0.021824	0.0193584	0.0730239	0.6752346	0.5989489	2.2254696	2.2254696
113	40:35.0	574281	6.35303E+12	5.67946E+13	5385.74	0.021824	0.0173956	0.0707827	0.6752346	0.5382199	2.1571652	2.1571652
114	45:37.8	574281	6.35303E+12	5.67946E+13	5380.67	0.021824	0.0172587	0.070716	0.6752346	0.5339842	2.1551345	2.1551345
115	50:40.6	574281	6.35303E+12	5.67946E+13	5377.85	0.021824	0.0135506	0.070679	0.6752346	0.4192556	2.1540005	2.1540005
116	55:43.6	574282	6.35303E+12	5.6096E+13	5376.85	0.021824	0.0181589	0.0715459	0.6752346	0.5618364	2.1804251	2.1804251
117	00:46.5	574282	6.35303E+12	5.6096E+13	5379.99	0.0237731	0.0180514	0.0715877	0.7355397	0.5585103	2.1816984	2.1816984
118	05:49.7	574283	6.35303E+12	5.56063E+13	5400.03	0.0237731	0.0201106	0.0724871	0.7355397	0.622222	2.2091081	2.2091081
119	10:52.9	574283	6.35303E+12	5.56063E+13	5401.02	0.0237731	0.0199693	0.0725003	0.7355397	0.6178501	2.2095131	2.2095131
120	15:55.8	574283	6.35303E+12	5.56063E+13	5411.08	0.0237731	0.0212877	0.0726354	0.7355397	0.6586414	2.2136286	2.2136286
121	20:59.8	574284	6.35303E+12	5.64188E+13	5401.02	0.0237731	0.0208648	0.0714563	0.7355397	0.6455569	2.177694	2.177694
122	26:03.1	574284	6.35303E+12	5.64188E+13	5401.31	0.0237731	0.0203588	0.0714601	0.7355397	0.6299013	2.1778109	2.1778109
123	31:06.6	574285	6.35303E+12	5.57835E+13	5409.35	0.0237731	0.0207637	0.0723816	0.7355397	0.6424289	2.2058933	2.2058933
124	36:09.6	574285	6.35303E+12	5.57835E+13	5396.6	0.0237731	0.0198566	0.072211	0.7355397	0.6143632	2.2006939	2.2006939
125	41:12.5	574285	6.35303E+12	5.57835E+13	5405.56	0.0237731	0.0206568	0.0723309	0.7355397	0.6391214	2.2043478	2.2043478
126	46:15.4	574285	6.35303E+12	5.57835E+13	5401.1	0.0237731	0.0203991	0.0722712	0.7355397	0.6311482	2.202529	2.202529
127	51:18.8	574285	6.35303E+12	5.57835E+13	5400.14	0.0237731	0.0206351	0.0722583	0.7355397	0.63845	2.2021375	2.2021375
128	56:21.7	574285	6.35303E+12	5.57835E+13	5401.59	0.0237731	0.0206066	0.0722777	0.7355397	0.6375682	2.2027288	2.2027288
129	01:25.2	574285	6.35303E+12	5.57835E+13	5405.56	0.0248369	0.0206776	0.0723309	0.7684537	0.6397649	2.2043478	2.2043478
130	06:28.3	574285	6.35303E+12	5.57835E+13	5409.65	0.0248369	0.0208352	0.0723856	0.7684537	0.6446411	2.2060156	2.2060156
131	11:31.3	574286	6.35303E+12	5.36818E+13	5410.84	0.0248369	0.0207924	0.075236	0.7684537	0.6433169	2.2928844	2.2928844
132	16:34.7	574287	6.35303E+12	5.50908E+13	5403.01	0.0248369	0.020789	0.0732057	0.7684537	0.6432117	2.2310097	2.2310097
133	21:38.0	574287	6.35303E+12	5.50908E+13	5380.86	0.0248369	0.0208418	0.0729056	0.7684537	0.6448453	2.2218635	2.2218635
134	26:41.1	574288	6.35303E+12	5.6444E+13	5384.99	0.0248369	0.0208444	0.0712098	0.7684537	0.6449257	2.1701832	2.1701832
135	31:44.2	574289	6.35303E+12	5.61643E+13	5388.52	0.0248369	0.0219035	0.071614	0.7684537	0.6776943	2.1824996	2.1824996
136	36:47.6	574289	6.35303E+12	5.61643E+13	5385.01	0.0248369	0.0219719	0.0715673	0.7684537	0.6798106	2.1810779	2.1810779
137	41:50.8	574289	6.35303E+12	5.61643E+13	5382.53	0.0248369	0.0214093	0.0715343	0.7684537	0.6624037	2.1800735	2.1800735
138	46:53.8	574289	6.35303E+12	5.61643E+13	5379.16	0.0248369	0.0212968	0.0714896	0.7684537	0.6799622	2.1787085	2.1787085
139	51:56.9	574292	6.35303E+12	5.59818E+13	5379.99	0.0248369	0.0220687	0.0717336	0.7684537	0.6828056	2.1861462	2.1861462
140	57:00.0	574293	6.35303E+12	5.63654E+13	5381.68	0.0248369	0.0220272	0.0712679	0.7684537	0.6815216	2.1719525	2.1719525
141	02:02.8	574294	6.35303E+12	5.66874E+13	5378.04	0.026102	0.0214717	0.0708151	0.8075959	0.6643344	2.1581537	2.1581537
142	07:05.8	574295	6.35303E+12	5.71185E+13	5388.44	0.026102	0.0216698	0.0704165	0.8075959	0.6704636	2.1460054	2.1460054
143	12:09.0	574296	6.35303E+12	5.69506E+13	5391.26	0.026102	0.0218279	0.070661	0.8075959	0.6753552	2.1534583	2.1534583
144	17:12.0	574298	6.35303E+12	5.77593E+13	5388.44	0.026102	0.0242173	0.0696352	0.8075959	0.7492833	2.1221966	2.1221966
145	22:15.5	574298	6.35303E+12	5.77593E+13	5392.01	0.026102	0.0224338	0.0696814	0.8075959	0.6941018	2.1236027	2.1236027
146	27:18.5	574298	6.35303E+12	5.77593E+13	5397.27	0.026102	0.0259045	0.0697494	0.8075959	0.8014852	2.1256743	2.1256743
147	32:21.8	574300	6.35303E+12	5.74492E+13	5392.2	0.026102	0.0266314	0.07006	0.8075959	0.8239755	2.1351406	2.1351406
148	37:25.9	574301	6.35303E+12	5.7613E+13	5391.27	0.026102	0.0805755	0.0698488	0.8075959	2.632236	2.1287047	2.1287047
149	42:30.2	574301	6.35303E+12	5.7613E+13	5391.55	0.026102	0.2222933	0.0698524	0.8075959	6.8777547	2.1288153	6.8777547
150	47:34.8	574302	6.35303E+12	5.77583E+13	5397.52	0.026102	0.0579206	0.0697538	0.8075959	4.8860634	2.1258102	4.8860634
151	52:39.0	574302	6.35303E+12	5.77583E+13	5396.44	0.026102	0.1798101	0.0697399	0.8075959	5.5633245	2.1253849	5.5633245
152	57:42.9	574305	6.35303E+12	5.8471E+13	5390.94	0.026102	0.1776521	0.0688196	0.8075959	5.496556	2.097339	5.496556
153	02:47.4	574305	6.35303E+12	5.8471E+13	5391.58	0.0283817	0.2214449	0.0688278	0.8781298	6.8515052	2.097588	6.8515052
154	07:50.3	574305	6.35303E+12	5.8471E+13	5393.02	0.0283817	0.0381924	0.0688461	0.8781298	1.1816729	2.0981483	2.0981483
155	12:53.3	574306	6.35303E+12	5.85526E+13	5393.03	0.0283817	0.0284554	0.0687504	0.8781298	0.8804101	2.0952297	2.0952297
156	17:56.2	574309	6.35303E+12	6.00748E+13	5395.99	0.0283817	0.0254553	0.0670451	0.8781298	0.787587	2.0432598	2.0432598
157	22:59.6	574309	6.35303E+12	6.00748E+13	5395.98	0.0283817	0.0262791	0.067045	0.8781298	0.8130754	2.043256	2.043256
158	28:03.3	574310	6.35303E+12	6.02983E+13	5397.49	0.0283817	0.0261018	0.0668152	0.8781298	0.8075897	2.0362532	2.0362532
159	33:06.3	574311	6.35303E+12	6.01255E+13	5398.95	0.0283817	0.0304073	0.0670253	0.8781298	0.9408019	2.0426553	2.0426553
160	38:09.3	574312	6.35303E+12	5.99055E+13	5397.51	0.0283817	0.0304044	0.0672535	0.8781298	0.9407121	2.0496101	2.0496101
161	43:12.3	574312	6.35303E+12	5.99055E+13	5396.26	0.0283817	0.0304045	0.0672379	0.8781298	0.9419838	2.0491354	2.0491354
162	48:15.1	574314	6.35303E+12	5.98595E+13	5395.6	0.0283817	0.0262044	0.0672813	0.8781298	0.8107641	2.0504592	2.0504592
163	53:18.0	574315	6.35303E+12	5.97623E+13	5391.83	0.0283817	0.0289928	0.0673437	0.8781298	0.8970372	2.0523603	

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
190	09:43.0	574327	6.35303E+12	5.96067E+13	5400.79	0.0303728	0.0289272	0.0676317	0.9397344	0.8950076	2.0611364	2.0611364
191	14:45.8	574327	6.35303E+12	5.96067E+13	5402.51	0.0303728	0.0277593	0.0676532	0.9397344	0.8588727	2.0617928	2.0617928
192	19:48.6	574328	6.35303E+12	5.96752E+13	5405.01	0.0303728	0.0260079	0.0676069	0.9397344	0.8046884	2.0603812	2.0603812
193	24:53.1	574328	6.35303E+12	5.96752E+13	5405.56	0.0303728	0.0274773	0.0676138	0.9397344	0.8500146	2.0605909	2.0605909
194	29:56.2	574328	6.35303E+12	5.96752E+13	5413.98	0.0303728	0.0272669	0.0677191	0.9397344	0.8436379	2.0638005	2.0638005
195	34:59.4	574329	6.35303E+12	5.94855E+13	5414.16	0.0303728	0.027398	0.0679373	0.9397344	0.8476941	2.0704516	2.0704516
196	40:02.3	574330	6.35303E+12	5.97035E+13	5414.01	0.0303728	0.0273913	0.0676874	0.9397344	0.8474868	2.0628341	2.0628341
197	45:05.1	574331	6.35303E+12	5.96567E+13	5411.51	0.0303728	0.0260921	0.0677092	0.9397344	0.8072896	2.0634981	2.0634981
198	50:08.5	574333	6.35303E+12	5.9734E+13	5408.31	0.0303728	0.0272287	0.0675816	0.9397344	0.842456	2.0596102	2.0596102
199	55:11.1	574333	6.35303E+12	5.9734E+13	5400.01	0.0303728	0.0272351	0.0674779	0.9397344	0.842654	2.0564494	2.0564494
200	05:16.6	574335	6.35303E+12	5.9018E+13	5400.72	0.0292151	0.0284932	0.0683055	0.9039152	0.8815796	2.0816708	2.0816708
201	10:20.2	574337	6.35303E+12	6.04407E+13	5401.43	0.0292151	0.0273247	0.0667064	0.9039152	0.8454262	2.0329364	2.0329364
202	15:23.2	574337	6.35303E+12	6.04407E+13	5403.84	0.0292151	0.0270874	0.0667361	0.9039152	0.8380842	2.0338434	2.0338434
203	20:26.3	574340	6.35303E+12	6.01388E+13	5404.02	0.0292151	0.0266421	0.0670734	0.9039152	0.8243066	2.044123	2.044123
204	30:31.9	574342	6.35303E+12	6.0482E+13	5405.55	0.0292151	0.0261271	0.0667116	0.9039152	0.8083725	2.0330975	2.0330975
205	35:34.8	574343	6.35303E+12	5.99395E+13	5400.01	0.0292151	0.0267626	0.0672465	0.9039152	0.8280348	2.0493965	2.0493965
206	40:37.9	574343	6.35303E+12	5.99395E+13	5399.02	0.0292151	0.0266166	0.0672341	0.9039152	0.8235176	2.0490207	2.0490207
207	45:41.0	574344	6.35303E+12	5.95861E+13	5399.01	0.0292151	0.0272594	0.0676328	0.9039152	0.8434058	2.0611697	2.0611697
208	50:43.8	574344	6.35303E+12	5.95861E+13	5394.85	0.0292151	0.0266036	0.0675807	0.9039152	0.8231154	2.0595816	2.0595816
209	55:46.5	574344	6.35303E+12	5.95861E+13	5398.35	0.0292151	0.0268144	0.0676245	0.9039152	0.8296375	2.0609177	2.0609177
210	00:51.0	574345	6.35303E+12	5.83668E+13	5398.44	0.0282594	0.0283316	0.0690384	0.8743458	7.0645797	2.1040074	2.0645797
211	05:53.8	574346	6.35303E+12	5.84022E+13	5394.51	0.0282594	0.0270103	0.0689463	0.8743458	0.8356987	2.1012014	2.1012014
212	10:57.1	574347	6.35303E+12	5.86008E+13	5396.65	0.0282594	0.0270877	0.0687399	0.8743458	0.8380934	2.0949115	2.0949115
213	16:00.5	574347	6.35303E+12	5.86008E+13	5399.98	0.0282594	0.0272394	0.0687824	0.8743458	0.842787	2.0962041	2.0962041
214	21:03.5	574348	6.35303E+12	5.87322E+13	5397.6	0.0282594	0.0269131	0.0685982	0.8743458	0.8326913	2.0905929	2.0905929
215	26:07.8	574348	6.35303E+12	5.87322E+13	5396.94	0.0282594	0.0272329	0.0685898	0.8743458	7.0305859	2.030373	7.0305859
216	31:11.2	574349	6.35303E+12	5.84595E+13	5395.06	0.0282594	0.0368119	0.0688857	0.8743458	1.1389602	2.0993542	2.0993542
217	36:14.2	574350	6.35303E+12	5.91267E+13	5396.77	0.0282594	0.0273647	0.06813	0.8743458	0.8466638	2.0763241	2.0763241
218	41:17.0	574350	6.35303E+12	5.91267E+13	5395.88	0.0282594	0.0250754	0.0681188	0.8743458	0.7758329	2.0759816	2.0759816
219	46:20.3	574351	6.35303E+12	5.92508E+13	5395.8	0.0282594	0.0257701	0.0679751	0.8743458	0.7973269	2.0716025	2.0716025
220	51:23.3	574351	6.35303E+12	5.92508E+13	5393.06	0.0282594	0.0249811	0.0679406	0.8743458	0.7729152	2.0705505	2.0705505
221	56:25.9	574351	6.35303E+12	5.92508E+13	5391.33	0.0282594	0.0252147	0.0679188	0.8743458	0.7801428	2.0698863	2.0698863
222	01:28.7	574351	6.35303E+12	5.92508E+13	5390.01	0.0294875	0.0252863	0.0679022	0.9123433	0.7823581	2.0693795	2.0693795
223	06:31.8	574351	6.35303E+12	5.92508E+13	5374.44	0.0294875	0.0227695	0.067706	0.9123433	0.7044883	2.0634017	2.0634017
224	11:34.6	574351	6.35303E+12	5.92508E+13	5371.81	0.0294875	0.0228204	0.0676729	0.9123433	0.7060632	2.062392	2.062392
225	16:37.4	574352	6.35303E+12	5.79249E+13	5372.6	0.0294875	0.024445	0.0692321	0.9123433	0.7563283	2.1099115	2.1099115
226	21:40.3	574353	6.35303E+12	5.95341E+13	5377.77	0.0294875	0.0231413	0.0674255	0.9123433	0.7159918	2.0548543	2.0548543
227	26:43.1	574353	6.35303E+12	5.95341E+13	5384.99	0.0294875	0.0250495	0.0675161	0.9123433	0.7750315	2.0576131	2.0576131
228	31:45.9	574353	6.35303E+12	5.95341E+13	5393.61	0.0294875	0.0254698	0.0676241	0.9123433	0.7880356	2.0609068	2.0609068
229	36:48.6	574353	6.35303E+12	5.95341E+13	5395.02	0.0294875	0.0250496	0.0676418	0.9123433	0.786173	2.0614455	2.0614455
230	41:51.5	574353	6.35303E+12	5.95341E+13	5401.49	0.0294875	0.0250828	0.0677229	0.9123433	0.7760618	2.0639177	2.0639177
231	46:55.3	574356	6.35303E+12	6.01278E+13	5393.39	0.0294875	0.0235193	0.0669538	0.9123433	0.7276871	2.0404768	2.0404768
232	51:58.7	574356	6.35303E+12	6.01278E+13	5401.9	0.0294875	0.0249891	0.0670594	0.9123433	0.7731628	2.0436963	2.0436963
233	57:01.6	574357	6.35303E+12	5.98782E+13	5404.01	0.0294875	0.0221317	0.0673653	0.9123433	0.6847548	2.0530169	2.0530169
234	02:04.6	574357	6.35303E+12	5.98782E+13	5410.44	0.0358722	0.021966	0.0674454	1.1098859	0.679628	2.0554597	2.0554597
235	07:08.5	574357	6.35303E+12	5.98782E+13	5413.48	0.0358722	0.0217579	0.0674833	1.1098859	0.6731894	2.0566147	2.0566147
236	12:11.9	574359	6.35303E+12	5.99023E+13	5412.99	0.0358722	0.0219837	0.0674501	1.1098859	0.6801757	2.0556012	2.0556012
237	17:15.2	574360	6.35303E+12	6.0023E+13	5413.64	0.0358722	0.0220791	0.0673224	1.1098859	0.6831274	2.0517109	2.0517109
238	22:18.3	574360	6.35303E+12	6.0023E+13	5409.57	0.0358722	0.0229158	0.0672718	1.1098859	0.7090149	2.0501684	2.0501684
239	27:22.6	574360	6.35303E+12	6.0023E+13	5403.2	0.0358722	0.0226755	0.0671926	1.1098859	0.70158	2.0477543	2.0477543
240	32:25.6	574361	6.35303E+12	5.95038E+13	5409.65	0.0358722	0.0247112	0.0678598	1.1098859	0.7645645	2.068088	2.068088
241	37:29.5	574361	6.35303E+12	5.95038E+13	5414.99	0.0358722	0.0361625	0.0679268	1.1098859	1.1188678	2.0701294	2.0701294
242	42:32.7	574362	6.35303E+12	5.87448E+13	5422.88	0.0358722	0.0240264	0.0689047	1.1098859	0.7433768	2.0999322	2.0999322
243	47:36.4	574362	6.35303E+12	5.87448E+13	5432.58	0.0358722	0.0226338	0.0690279	1.1098859	0.7002898	2.1036884	2.1036884
244	52:39.7	574362	6.35303E+12	5.87448E+13	5428.01	0.0358722	0.0242397	0.0689699	1.1098859	0.7499763	2.1019188	2.1019188
245	57:42.7	574363	6.35303E+12	5.80502E+13	5427.15	0.0358722	0.032838	0.0697841	1.1098859	1.0160077	2.1267343	2.1267343
246	02:45.9	574364	6.35303E+12	5.78645E+13	5427.23	0.0269724	0.048486	0.0700091	0.8345261	1.5001568	2.1335902	2.1335902
247	07:49.0	574364	6.35303E+12	5.78645E+13	5441.99	0.0269724	0.0436141	0.0701995	0.8345261	1.3494203	2.1393928	2.1393928
248	12:51.9	574365	6.35303E+12	5.73396E+13	5428.97	0.0269724	0.0245126	0.0706726	0.8345261	0.7584198	2.1538115	2.1538115
249	17:54.9	574367	6.35303E+12	5.84533E+13	5439.06	0.0269724	0.0248829	0.069455	0.8345261	0.7698769	2.1167024	2.1167024
250	22:58.1	574367	6.35303E+12	5.84533E+13	5434.48	0.0269724	0.023335	0.0693965	0.8345261	0.7225454	2.1149201	2.1149201
251	28:01.3	574368	6.35303E+12	5.81378E+13	5438.3	0.0269724	0.0216344	0.0698221	0.8345261	0.6693683	2.1278923	2.1278923
252	33:04.7	574368	6.35303E+12	5.81378E+13	5439.66	0.0269724	0.0213325	0.0698396	0.8345261	0.6600276	2.1284244	2.1284244
253	38:08.1	574369	6.35303E+12	5.7527E+13	5442.57	0.0269724	0.0208711	0.0706189	0.8345261	0.6440811	2.1521741	2.1521741
254	43:11.1	574370	6.35303E+12	5.73316E+13	5444.99	0.0269724	0.0201683	0.0708911	0.8345261	0.6240072	2.1604697	2.1604697
255	48:14.1	574370	6.35303E+12	5.73316E+13	5466.35	0.0269724	0.0200828	0.0711692	0.8345261	0.6213618	2.1689449	2.1689449
256	53:17.4	574370	6.35303E+12	5.73316E+13	5469.28	0.0269724	0.0197299	0.0712073	0.8345261	0.6104431	2.1701075	2.1701075
257	58:20.4	574373	6.35303E+12	5.75391E+13	5468.81	0.0269724	0.0200014	0.0709444	0.8345261	0.6188433	2.1620944	2.1620944
258	03:23.6	574										

1	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_UMP	real_time_UMP	breakeven_mining_cost	day_ahead_UMP_rev	real_time_UMP_rev	mining_rev	realized_rev
284	25:19.0	574393	6.35303E+12	5.4543E+13	5532.49	0.0169796	0.0194997	0.075713	0.5253488	0.6033207	2.3074208	2.3074208
285	30:22.4	574393	6.35303E+12	5.4543E+13	5536.93	0.0169796	0.01969	0.0757737	0.5253488	0.6092086	2.3092726	2.3092726
286	35:25.7	574393	6.35303E+12	5.4543E+13	5564.48	0.0169796	0.0196471	0.0761508	0.5253488	0.6078813	2.3207628	2.3207628
287	40:28.5	574394	6.35303E+12	5.38779E+13	5538.44	0.0169796	0.0199408	0.0767299	0.5253488	0.6169684	2.3384139	2.3384139
288	45:31.4	574395	6.35303E+12	5.53825E+13	5520.08	0.0169796	0.0196539	0.074398	0.5253488	0.6080917	2.2673468	2.2673468
289	50:34.1	574395	6.35303E+12	5.53825E+13	5520.48	0.0169796	0.0197095	0.0744034	0.5253488	0.6098119	2.2675111	2.2675111
290	55:37.0	574395	6.35303E+12	5.53825E+13	5515.98	0.0169796	0.0193539	0.0743428	0.5253488	0.5988097	2.2656627	2.2656627
291	00:39.8	574395	6.35303E+12	5.53825E+13	5518.69	0.0176483	0.0193487	0.0743793	0.5460384	0.5986488	2.2667759	2.2667759
292	05:43.2	574395	6.35303E+12	5.53825E+13	5531.68	0.0176483	0.0192845	0.0745544	0.5460384	0.5966624	2.2721114	2.2721114
293	10:46.2	574395	6.35303E+12	5.53825E+13	5528.2	0.0176483	0.0191026	0.0745075	0.5460384	0.5910344	2.270682	2.270682
294	15:49.5	574396	6.35303E+12	5.44713E+13	5541.2	0.0176483	0.0190542	0.075932	0.5460384	0.5895369	2.3140947	2.3140947
295	20:52.5	574396	6.35303E+12	5.44713E+13	5544.69	0.0176483	0.0190808	0.0759798	0.5460384	0.59036	2.3155521	2.3155521
296	25:55.5	574396	6.35303E+12	5.44713E+13	5552.98	0.0176483	0.019178	0.0760934	0.5460384	0.5933673	2.3190142	2.3190142
297	30:59.2	574397	6.35303E+12	5.38389E+13	5536.99	0.0176483	0.018807	0.0767654	0.5460384	0.5818886	2.3394943	2.3394943
298	41:05.7	574397	6.35303E+12	5.38389E+13	5578.73	0.0176483	0.0189594	0.0773441	0.5460384	0.5866038	2.3571303	2.3571303
299	46:09.1	574397	6.35303E+12	5.38389E+13	5587.27	0.0176483	0.0190541	0.0774625	0.5460384	0.5895339	2.3607386	2.3607386
300	51:12.8	574397	6.35303E+12	5.38389E+13	5577.62	0.0176483	0.0195343	0.0773287	0.5460384	0.6043912	2.3566613	2.3566613
301	56:15.8	574397	6.35303E+12	5.38389E+13	5578.43	0.0176483	0.0195897	0.0773399	0.5460384	0.6061053	2.3570036	2.3570036
302	01:18.8	574398	6.35303E+12	5.24135E+13	5585.77	0.0178528	0.0199086	0.0795478	0.5523656	0.6159721	2.42429	2.42429
303	06:21.7	574399	6.35303E+12	5.22154E+13	5570.36	0.0178528	0.0200685	0.0796293	0.5523656	0.6209194	2.4267736	2.4267736
304	11:24.5	574400	6.35303E+12	5.19602E+13	5563.2	0.0178528	0.0198898	0.0799175	0.5523656	0.6153904	2.4355582	2.4355582
305	16:27.7	574400	6.35303E+12	5.19602E+13	5579.23	0.0178528	0.0199775	0.0801478	0.5523656	0.6181039	2.4425761	2.4425761
306	21:30.9	574400	6.35303E+12	5.19602E+13	5571.91	0.0178528	0.0199738	0.0800426	0.5523656	0.6179894	2.4393714	2.4393714
307	26:33.7	574401	6.35303E+12	5.14241E+13	5570.27	0.0178528	0.0201313	0.0808533	0.5523656	0.6228624	2.4640783	2.4640783
308	31:36.6	574402	6.35303E+12	5.15991E+13	5562.53	0.0178528	0.0200901	0.0804671	0.5523656	0.6215877	2.4523071	2.4523071
309	36:39.5	574402	6.35303E+12	5.15991E+13	5598.28	0.0178528	0.0208943	0.0809843	0.5523656	0.6448855	2.4680679	2.4680679
310	41:42.6	574404	6.35303E+12	5.22163E+13	5622.51	0.0178528	0.0203289	0.0803735	0.5523656	0.6289762	2.4494541	2.4494541
311	46:45.4	574405	6.35303E+12	5.26766E+13	5610.46	0.0178528	0.0231107	0.0795004	0.5523656	0.6902931	2.4228448	2.4228448
312	51:48.0	574406	6.35303E+12	5.44332E+13	5697.34	0.0178528	0.0203729	0.0781261	0.5523656	0.6303375	2.3809636	2.3809636
313	56:51.2	574407	6.35303E+12	5.44179E+13	5660.07	0.0178528	0.0202985	0.077637	0.5523656	0.6280356	2.3660567	2.3660567
314	01:53.8	574407	6.35303E+12	5.44179E+13	5667.78	0.018673	0.019187	0.0777427	0.5777426	0.5936458	2.3692797	2.3692797
315	06:56.8	574408	6.35303E+12	5.43366E+13	5661.93	0.018673	0.0198179	0.0777787	0.5777426	0.6131658	2.3703744	2.3703744
316	11:59.7	574409	6.35303E+12	5.45039E+13	5688.4	0.018673	0.0201109	0.0779024	0.5777426	0.6222312	2.3741451	2.3741451
317	17:02.5	574409	6.35303E+12	5.45039E+13	5705.82	0.018673	0.0203436	0.0781409	0.5777426	0.629431	2.3814156	2.3814156
318	22:05.5	574409	6.35303E+12	5.45039E+13	5684.26	0.018673	0.0227072	0.0778457	0.5777426	0.7025608	2.3724172	2.3724172
319	27:08.6	574410	6.35303E+12	5.4739E+13	5675.94	0.018673	0.020882	0.0773979	0.5777426	0.6460891	2.3587711	2.3587711
320	32:12.0	574410	6.35303E+12	5.4739E+13	5704.8	0.018673	0.0217919	0.0777915	0.5777426	0.6742414	2.3707646	2.3707646
321	37:15.1	574410	6.35303E+12	5.4739E+13	5701.98	0.018673	0.0218761	0.077753	0.5777426	0.6768465	2.3695926	2.3695926
322	42:18.0	574410	6.35303E+12	5.4739E+13	5732.34	0.018673	0.0216156	0.078167	0.5777426	0.6687867	2.3822095	2.3822095
323	47:21.3	574410	6.35303E+12	5.4739E+13	5753.01	0.018673	0.0231724	0.0784489	0.5777426	0.7169541	2.3907994	2.3907994
324	52:24.4	574410	6.35303E+12	5.4739E+13	5756.81	0.018673	0.0236957	0.0785007	0.5777426	0.733145	2.3923786	2.3923786
325	07:33.5	574412	6.35303E+12	5.33495E+13	5695.4	0.0236366	0.0226621	0.0796861	0.7313164	0.7011654	2.4285046	2.4285046
326	12:36.5	574412	6.35303E+12	5.33495E+13	5717.23	0.0236366	0.0234957	0.0799915	0.7313164	0.726957	2.4378128	2.4378128
327	17:39.6	574413	6.35303E+12	5.25253E+13	5714.11	0.0236366	0.0236665	0.0812022	0.7313164	0.7331697	2.4747113	2.4747113
328	22:42.4	574413	6.35303E+12	5.25253E+13	5730.11	0.0236366	0.0232574	0.0814296	0.7313164	0.691738	2.4816407	2.4816407
329	27:45.2	574413	6.35303E+12	5.25253E+13	5715.55	0.0236366	0.0257048	0.0812227	0.7313164	0.7953065	2.475335	2.475335
330	32:48.0	574414	6.35303E+12	5.19701E+13	5734.99	0.0236366	0.0255095	0.0823697	0.7313164	0.7892639	2.5102894	2.5102894
331	37:50.7	574414	6.35303E+12	5.19701E+13	5743.05	0.0236366	0.0257825	0.0824854	0.7313164	0.7977106	2.5138174	2.5138174
332	47:55.8	574419	6.35303E+12	5.263E+13	5733.81	0.0236366	0.0226332	0.0813201	0.7313164	0.7002712	2.4783037	2.4783037
333	52:58.6	574420	6.35303E+12	5.25895E+13	5702.24	0.0236366	0.0365861	0.0809348	0.7313164	1.1319739	2.4665598	2.4665598
334	03:05.1	574422	6.35303E+12	5.2543E+13	5687.09	0.0270381	0.0220677	0.080791	0.8365588	0.6827746	2.4621796	2.4621796
335	08:08.3	574424	6.35303E+12	5.28202E+13	5689.31	0.0270381	0.021979	0.0803985	0.8365588	0.6800303	2.4502159	2.4502159
336	13:11.1	574424	6.35303E+12	5.28202E+13	5696.24	0.0270381	0.0220696	0.0804964	0.8365588	0.6828334	2.4532005	2.4532005
337	18:13.9	574424	6.35303E+12	5.28202E+13	5678.52	0.0270381	0.0284763	0.080246	0.8365588	0.8810567	2.445569	2.445569
338	23:16.6	574426	6.35303E+12	5.30049E+13	5680.01	0.0270381	0.0489843	0.0799874	0.8365588	1.5155742	2.4376872	2.4376872
339	28:21.0	574427	6.35303E+12	5.28466E+13	5679.28	0.0270381	0.2387125	0.0802166	0.8365588	7.3857647	2.4446732	7.3857647
340	33:25.0	574427	6.35303E+12	5.28466E+13	5698.99	0.0270381	0.2311826	0.080495	0.8365588	7.1527896	2.4531574	7.1527896
341	38:27.9	574427	6.35303E+12	5.28466E+13	5702.85	0.0270381	0.0493653	0.0805495	0.8365588	1.5273624	2.454819	2.454819
342	43:31.1	574428	6.35303E+12	5.2354E+13	5722.4	0.0270381	0.0281258	0.0815862	0.8365588	0.8702123	2.4864117	2.4864117
343	48:33.8	574428	6.35303E+12	5.2354E+13	5716.73	0.0270381	0.0284035	0.0815053	0.8365588	0.8788167	2.483948	2.483948
344	53:36.7	574428	6.35303E+12	5.2354E+13	5711.78	0.0270381	0.02865	0.0814347	0.8365588	0.886431	2.4817972	2.4817972
345	58:39.3	574429	6.35303E+12	5.15634E+13	5700.85	0.0270381	0.0241868	0.0825252	0.8365588	0.7483396	2.5150298	2.5150298
346	03:42.5	574429	6.35303E+12	5.15634E+13	5699.99	0.0277604	0.0226736	0.0825128	0.8589068	0.7015212	2.5146504	2.5146504
347	08:45.2	574429	6.35303E+12	5.15634E+13	5715.88	0.0277604	0.0234588	0.0827428	0.8589068	0.7258153	2.5216605	2.5216605
348	13:48.0	574430	6.35303E+12	5.12815E+13	5716.7	0.0277604	0.0236299	0.0832095	0.8589068	0.7311091	2.5358831	2.5358831
349	18:51.3	574430	6.35303E+12	5.12815E+13	5707.94	0.0277604	0.0239638	0.0830819	0.8589068	0.74144	2.5319972	2.5319972
350	23:54.2	574430	6.35303E+12	5.12815E+13	5728.45	0.0277604	0.0239508	0.0833805	0.8589068	0.7410378	2.5410953	2.5410953
351	28:57.1	574430	6.35303E+12	5.12815E+13	5736.02	0.0277604	0.0240308	0.0834907	0.8589068	0.743513	2.5444533	2.5444533
352	33:59.8	574430	6.35303E+12	5.12815E+13</								

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	05:27.0	574448	6.35303E+12	5.19511E+13	5706.98	0.0294253	0.0253359	0.0819973	0.9104188	0.7838927	2.4989409	2.4989409
379	10:30.3	574449	6.35303E+12	5.17328E+13	5701.52	0.0294253	0.0259191	0.08222646	0.9104188	0.801937	2.5070865	2.5070865
380	15:33.5	574450	6.35303E+12	5.16724E+13	5720.36	0.0294253	0.0262614	0.0826329	0.9104188	0.8125277	2.5183117	2.5183117
381	20:36.3	574450	6.35303E+12	5.16724E+13	5715.9	0.0294253	0.0259411	0.0825685	0.9104188	0.8026176	2.5163482	2.5163482
382	25:39.3	574450	6.35303E+12	5.16724E+13	5710.01	0.0294253	0.02602	0.0824834	0.9104188	0.8050588	2.5137552	2.5137552
383	30:42.6	574450	6.35303E+12	5.16724E+13	5720.01	0.0294253	0.0257416	0.0826278	0.9104188	0.7964451	2.5181576	2.5181576
384	35:45.4	574450	6.35303E+12	5.16724E+13	5725.31	0.0294253	0.0263149	0.0827044	0.9104188	0.814183	2.5204908	2.5204908
385	40:48.2	574452	6.35303E+12	5.09821E+13	5714.39	0.0294253	0.0264506	0.0836643	0.9104188	0.8183816	2.5497457	2.5497457
386	45:51.1	574454	6.35303E+12	5.11925E+13	5720.01	0.0294253	0.0252602	0.0834024	0.9104188	0.7815506	2.5417623	2.5417623
387	50:54.1	574454	6.35303E+12	5.11925E+13	5704.48	0.0294253	0.0244985	0.0831759	0.9104188	0.7579836	2.5348614	2.5348614
388	55:57.1	574454	6.35303E+12	5.11925E+13	5713.35	0.0294253	0.0241693	0.0833053	0.9104188	0.7477981	2.5388029	2.5388029
389	00:59.9	574454	6.35303E+12	5.11925E+13	5714.69	0.0318592	0.0253433	0.0833248	0.9857236	0.7841217	2.5393983	2.5393983
390	06:03.5	574454	6.35303E+12	5.11925E+13	5710.33	0.0318592	0.0243257	0.0832612	0.9857236	0.7526372	2.5374609	2.5374609
391	11:07.4	574454	6.35303E+12	5.11925E+13	5705.52	0.0318592	0.0246413	0.0831911	0.9857236	0.7624018	2.5353235	2.5353235

Bearbox v Lancium
Trial Exhibit
TX920-6

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Appx13429

BB10000917

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
2	22:20.9	574204	6.35303E+12	5.38327E+13	5320.02	0.0054942	0.0058423	0.0737658	0.1699905	0.1807608	2.2480786	2.2480786
3	27:24.1	574204	6.35303E+12	5.38327E+13	5320.01	0.0054942	0.0062269	0.0737656	0.1699905	0.1926603	2.2480744	2.2480744
4	32:27.2	574204	6.35303E+12	5.38327E+13	5321.94	0.0054942	0.0045157	0.0737924	0.1699905	0.1397158	2.24889	2.24889
5	37:30.3	574205	6.35303E+12	5.30839E+13	5321.95	0.0054942	0.0035338	0.0748335	0.1699905	0.1093358	2.2806172	2.2806172
6	42:33.3	574205	6.35303E+12	5.30839E+13	5326.19	0.0054942	0.002277	0.0748931	0.1699905	0.0704504	2.2824342	2.2824342
7	47:36.1	574206	6.35303E+12	5.44532E+13	5328.27	0.0054942	0.0051513	0.0730384	0.1699905	0.1593812	2.225912	2.225912
8	52:39.2	574206	6.35303E+12	5.44532E+13	5328.65	0.0054942	0.0072185	0.0730436	0.1699905	0.2233404	2.2260707	2.2260707
9	57:42.1	574207	6.35303E+12	5.39845E+13	5327.68	0.0054942	0.0010915	0.0736643	0.1699905	0.033771	2.2449863	2.2449863
10	02:45.4	574207	6.35303E+12	5.39845E+13	5327.22	0.0007072	0.0026959	0.073658	0.0218808	0.0834111	2.2447925	2.2447925
11	07:48.3	574208	6.35303E+12	5.34662E+13	5325.01	0.0007072	-0.0034108	0.0743412	0.0218808	-0.1055302	2.2656139	2.2656139
12	12:51.5	574208	6.35303E+12	5.34662E+13	5325.01	0.0007072	-0.0088288	0.0743412	0.0218808	-0.2731631	2.2656139	2.2656139
13	17:54.3	574209	6.35303E+12	5.33477E+13	5321.01	0.0007072	0.0005301	0.0744503	0.0218808	0.0164013	2.2689395	2.2689395
14	22:57.3	574209	6.35303E+12	5.33477E+13	5327.95	0.0007072	0.0007828	0.0745474	0.0218808	0.0242198	2.2718988	2.2718988
15	28:01.3	574211	6.35303E+12	5.42133E+13	5325.19	0.0007072	-0.0182739	0.0733191	0.0218808	-0.5653945	2.2344662	2.2344662
16	33:04.8	574212	6.35303E+12	5.54528E+13	5323.43	0.0007072	-0.0301375	0.0716566	0.0218808	-0.9324543	2.1838	2.1838
17	38:07.8	574214	6.35303E+12	5.533E+13	5323.35	0.0007072	-0.0305618	0.0718145	0.0218808	-0.9455821	2.1886119	2.1886119
18	43:10.7	574215	6.35303E+12	5.58834E+13	5323.1	0.0007072	-0.0284827	0.0711001	0.0218808	-0.8812547	2.1668382	2.1668382
19	48:13.5	574215	6.35303E+12	5.58834E+13	5326.55	0.0007072	-0.0254853	0.0711461	0.0218808	-0.7885152	2.1682425	2.1682425
20	53:16.6	574215	6.35303E+12	5.58834E+13	5328.3	0.0007072	-0.0291736	0.0711695	0.0218808	-0.9026312	2.1689549	2.1689549
21	58:19.3	574216	6.35303E+12	5.54406E+13	5326.69	0.0007072	-0.0300521	0.0717163	0.0218808	-0.929812	2.1856184	2.1856184
22	03:22.6	574216	6.35303E+12	5.54406E+13	5330.35	0.0001184	-0.0293821	0.0717656	0.0036633	-0.9090822	2.1871201	2.1871201
23	08:25.6	574218	6.35303E+12	5.58377E+13	5330.78	0.0001184	-0.0300371	0.071261	0.0036633	-0.0928726	2.1717421	2.1717421
24	13:28.5	574220	6.35303E+12	5.59914E+13	5329.45	0.0001184	-0.0183569	0.0710476	0.0036633	-0.5679625	2.1652392	2.1652392
25	18:31.4	574220	6.35303E+12	5.59914E+13	5348.41	0.0001184	-0.0168349	0.0713003	0.0036633	-0.5208718	2.1729422	2.1729422
26	23:34.2	574223	6.35303E+12	5.60912E+13	5338.35	0.0001184	-0.0262408	0.0710397	0.0036633	-0.8118904	2.164998	2.164998
27	28:37.1	574226	6.35303E+12	5.60441E+13	5328.39	0.0001184	-0.0286978	0.0709666	0.0036633	-0.8879099	2.1627725	2.1627725
28	33:39.9	574226	6.35303E+12	5.60441E+13	5333.1	0.0001184	-0.0249271	0.0710294	0.0036633	-0.7712445	2.1646843	2.1646843
29	38:43.2	574227	6.35303E+12	5.56725E+13	5332.07	0.0001184	-0.0184162	0.0714897	0.0036633	-0.5698158	2.1787132	2.1787132
30	43:45.9	574227	6.35303E+12	5.56725E+13	5339.02	0.0001184	-0.0190364	0.0715829	0.0036633	-0.5889862	2.181553	2.181553
31	48:49.2	574228	6.35303E+12	5.52451E+13	5343.15	0.0001184	-0.0188272	0.0721925	0.0036633	-0.5825136	2.2001303	2.2001303
32	53:52.1	574229	6.35303E+12	5.5892E+13	5338.61	0.0001184	-0.0278877	0.0712963	0.0036633	-0.8628454	2.1728179	2.1728179
33	58:55.4	574229	6.35303E+12	5.5892E+13	5336.51	0.0001184	-0.0228802	0.0712682	0.0036633	-0.7079134	2.1719632	2.1719632
34	03:58.2	574229	6.35303E+12	5.5892E+13	5340.15	4.90E-06	-0.018324	0.0713168	0.0001516	-0.5669446	2.1734447	2.1734447
35	09:01.3	574229	6.35303E+12	5.5892E+13	5341.69	4.90E-06	-0.0302504	0.0713374	0.0001516	-0.9359474	2.1740715	2.1740715
36	14:04.8	574230	6.35303E+12	5.53347E+13	5346.1	4.90E-06	-0.0297233	0.0721153	0.0001516	-0.9196389	2.1977795	2.1977795
37	19:07.8	574230	6.35303E+12	5.53347E+13	5347.19	4.90E-06	-0.0295915	0.07213	0.0001516	-0.915561	2.1982276	2.1982276
38	24:10.8	574231	6.35303E+12	5.49411E+13	5341.77	4.90E-06	-0.0275611	0.0725732	0.0001516	-0.8527404	2.2117345	2.2117345
39	29:13.7	574231	6.35303E+12	5.49411E+13	5342.48	4.90E-06	-0.0276163	0.0725829	0.0001516	-0.8544483	2.2120284	2.2120284
40	34:16.7	574232	6.35303E+12	5.47061E+13	5349.99	4.90E-06	-0.0261726	0.0729971	0.0001516	-0.8097802	2.2246529	2.2246529
41	39:19.5	574232	6.35303E+12	5.47061E+13	5346.06	4.90E-06	-0.0268168	0.0729435	0.0001516	-0.8297118	2.2230187	2.2230187
42	44:22.9	574232	6.35303E+12	5.47061E+13	5350.69	4.90E-06	-0.027105	0.0730067	0.0001516	-0.8386287	2.224944	2.224944
43	49:25.9	574232	6.35303E+12	5.47061E+13	5361.36	4.90E-06	-0.0282807	0.0731523	0.0001516	-0.8727772	2.2293808	2.2293808
44	54:28.5	574232	6.35303E+12	5.47061E+13	5358.36	4.90E-06	-0.0275544	0.0731113	0.0001516	-0.8525331	2.2281334	2.2281334
45	59:31.3	574232	6.35303E+12	5.47061E+13	5369.47	4.90E-06	-0.025414	0.0732629	0.0001516	-0.7863092	2.2327532	2.2327532
46	04:34.2	574233	6.35303E+12	5.35475E+13	5382.49	0.0022439	-0.0254873	0.0750295	0.0694263	-0.7885771	2.2865921	2.2865921
47	09:37.0	574233	6.35303E+12	5.35475E+13	5358.81	0.0022439	-0.0031512	0.0746994	0.0694263	-0.0974981	2.2765324	2.2765324
48	14:39.6	574233	6.35303E+12	5.35475E+13	5359.15	0.0022439	-0.0011741	0.0747042	0.0694263	-0.0363267	2.2766768	2.2766768
49	19:42.4	574233	6.35303E+12	5.35475E+13	5359.66	0.0022439	-0.0180119	0.0747113	0.0694263	-0.5600728	2.2768935	2.2768935
50	24:45.0	574234	6.35303E+12	5.31615E+13	5358.18	0.0022439	-0.0021049	0.075233	0.0694263	-0.0651256	2.2927926	2.2927926
51	29:47.7	574234	6.35303E+12	5.31615E+13	5351.99	0.0022439	-0.0142703	0.0751461	0.0694263	-0.4415231	2.2901439	2.2901439
52	34:50.4	574234	6.35303E+12	5.31615E+13	5344.84	0.0022439	-0.003526	0.0750457	0.0694263	-0.1090944	2.2870844	2.2870844
53	39:53.2	574236	6.35303E+12	5.29706E+13	5349.94	0.0022439	-0.0156274	0.075388	0.0694263	-0.4835118	2.2975179	2.2975179
54	44:56.5	574237	6.35303E+12	5.26741E+13	5348.56	0.0022439	-0.0298903	0.0757929	0.0694263	-0.9248059	2.3098563	2.3098563
55	49:59.5	574238	6.35303E+12	5.2719E+13	5357.05	0.0022439	-0.0286539	0.0758485	0.0694263	-0.8865517	2.3115503	2.3115503
56	55:02.4	574238	6.35303E+12	5.2719E+13	5351.76	0.0022439	-0.00581	0.0757736	0.0694263	-0.1797614	2.3092677	2.3092677
57	00:05.4	574239	6.35303E+12	5.28168E+13	5350.18	0.0110575	-0.0017958	0.0756109	0.342119	-0.0555621	2.3043114	2.3043114
58	05:08.0	574239	6.35303E+12	5.28168E+13	5347.41	0.0110575	-0.0296719	0.0755718	0.342119	-0.9180486	2.3031184	2.3031184
59	10:10.8	574240	6.35303E+12	5.25658E+13	5348.27	0.0110575	-0.0286808	0.0759448	0.342119	-0.8867652	2.314487	2.314487
60	15:13.5	574243	6.35303E+12	5.35108E+13	5354.34	0.0110575	-0.000324	0.0746884	0.342119	-0.0100246	2.2761958	2.2761958
61	20:16.2	574245	6.35303E+12	5.38531E+13	5358.41	0.0110575	0.0006207	0.07427	0.342119	0.0192045	2.2634449	2.2634449
62	25:18.9	574245	6.35303E+12	5.38531E+13	5356.02	0.0110575	-0.0034312	0.0742369	0.342119	-0.1061613	2.2624353	2.2624353
63	30:21.7	574246	6.35303E+12	5.41667E+13	5359.34	0.0110575	-0.001958	0.0738528	0.342119	-0.0605805	2.2507317	2.2507317
64	35:24.4	574246	6.35303E+12	5.41667E+13	5361.98	0.0110575	0.0041538	0.0738892	0.342119	0.1285186	2.2518404	2.2518404
65	40:27.4	574246	6.35303E+12	5.41667E+13	5366.53	0.0110575	-0.0150598	0.0739519	0.342119	-0.4659502	2.2537513	2.2537513
66	45:30.2	574248	6.35303E+12	5.41479E+13	5365.93	0.0110575	-0.0019635	0.0739693	0.342119	-0.0607507	2.2542821	2.2542821
67	50:33.1	574251	6.35303E+12	5.52479E+13	5359.19	0.0110575	0.0009998	0.0724055	0.342119	0.0309338	2.2066234	2.2066234
68	55:35.9	574251	6.35303E+12	5.52479E+13	5360.66	0.0110575	0.0009997	0.0724254	0.342119	0.0309307	2.2072286	2.2072286
69	00:38.6	574252	6.35303E+12	5.50584E+13	5358.27	0.0155437	0.004066	0.0726423	0.4809221	0.125802	2.2138386	2.2138386
70	05:43.2	574252	6.35303E+12	5.50584E+13								

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
96	17:07.9	574270	6.35303E+12	5.6144E+13	5353.05	0.0175072	0.0070444	0.0711682	0.5416728	0.2179537	2.1689142	2.1689142
97	22:10.7	574271	6.35303E+12	5.6095E+13	5352.41	0.0175072	0.0068769	0.0712219	0.5416728	0.2127713	2.1705513	2.1705513
98	27:13.7	574271	6.35303E+12	5.6095E+13	5350.73	0.0175072	0.0068185	0.0711995	0.5416728	0.2109644	2.1698701	2.1698701
99	32:17.1	574271	6.35303E+12	5.6095E+13	5352.02	0.0175072	0.0070024	0.0712167	0.5416728	0.2166543	2.1703932	2.1703932
100	37:20.0	574273	6.35303E+12	5.53104E+13	5353.7	0.0175072	0.0074003	0.0722496	0.5416728	0.2289653	2.2018709	2.2018709
101	42:23.0	574273	6.35303E+12	5.53104E+13	5354.2	0.0175072	0.0093641	0.0722563	0.5416728	0.2897253	2.2020766	2.2020766
102	47:25.7	574274	6.35303E+12	5.53441E+13	5354.14	0.0175072	0.0106524	0.0722116	0.5416728	0.3295853	2.2007128	2.2007128
103	52:29.0	574274	6.35303E+12	5.53441E+13	5355.15	0.0175072	0.0155577	0.0722252	0.5416728	0.4813552	2.2011279	2.2011279
104	57:31.7	574274	6.35303E+12	5.53441E+13	5366.51	0.0175072	0.0134928	0.0723784	0.5416728	0.4174672	2.2057972	2.2057972
105	02:34.7	574274	6.35303E+12	5.53441E+13	5367.34	0.0201513	0.0088181	0.0723896	0.6234812	0.272832	2.2061384	2.2061384
106	07:37.6	574274	6.35303E+12	5.53441E+13	5369.11	0.0201513	0.0080448	0.0724135	0.6234812	0.2489061	2.2068659	2.2068659
107	12:40.5	574274	6.35303E+12	5.53441E+13	5361.12	0.0201513	0.0141938	0.0723057	0.6234812	0.4391562	2.2035818	2.2035818
108	17:43.1	574274	6.35303E+12	5.53441E+13	5366.11	0.0201513	0.0148287	0.072373	0.6234812	0.4588	2.2056328	2.2056328
109	22:45.8	574275	6.35303E+12	5.36343E+13	5369.98	0.0201513	0.0148955	0.0747339	0.6234812	0.4608668	2.2775843	2.2775843
110	27:48.5	574275	6.35303E+12	5.36343E+13	5368.01	0.0201513	0.0147788	0.0747065	0.6234812	0.4572561	2.2767487	2.2767487
111	32:51.2	574277	6.35303E+12	5.50501E+13	5373.94	0.0201513	0.0189124	0.0728657	0.6234812	0.5851497	2.2206488	2.2206488
112	37:54.0	574279	6.35303E+12	5.54528E+13	5377.71	0.0201513	0.0181814	0.0723873	0.6234812	0.5625325	2.2060669	2.2060669
113	42:56.7	574281	6.35303E+12	5.67946E+13	5384.52	0.0201513	0.016267	0.0707666	0.6234812	0.503301	2.1566766	2.1566766
114	47:59.4	574281	6.35303E+12	5.67946E+13	5380.73	0.0201513	0.0160892	0.0707168	0.6234812	0.4977998	2.1551586	2.1551586
115	53:02.7	574282	6.35303E+12	5.6096E+13	5375.54	0.0201513	0.0124623	0.0715284	0.6234812	0.3855836	2.1798939	2.1798939
116	58:06.1	574282	6.35303E+12	5.6096E+13	5378.27	0.0201513	0.0169571	0.0715648	0.6234812	0.5246527	2.1810009	2.1810009
117	03:10.1	574283	6.35303E+12	5.56063E+13	5389.1	0.0221974	0.0169284	0.0723403	0.6867876	0.5237647	2.2046367	2.2046367
118	08:13.3	574283	6.35303E+12	5.56063E+13	5401.6	0.0221974	0.0188882	0.0725081	0.6867876	0.5844009	2.2097504	2.2097504
119	13:16.5	574283	6.35303E+12	5.56063E+13	5411.61	0.0221974	0.0187623	0.0726425	0.6867876	0.5805056	2.2138454	2.2138454
120	18:19.3	574284	6.35303E+12	5.64188E+13	5399.02	0.0221974	0.0199987	0.0714298	0.6867876	0.6187598	2.1768876	2.1768876
121	23:22.1	574284	6.35303E+12	5.64188E+13	5401.6	0.0221974	0.0195923	0.0714639	0.6867876	0.6061858	2.1779279	2.1779279
122	28:25.0	574284	6.35303E+12	5.64188E+13	5405.99	0.0221974	0.0190804	0.0715222	0.6867876	0.5903476	2.1796979	2.1796979
123	33:27.8	574285	6.35303E+12	5.57835E+13	5406.94	0.0221974	0.0194306	0.0723493	0.6867876	0.6011828	2.2049105	2.2049105
124	38:30.5	574285	6.35303E+12	5.57835E+13	5401.12	0.0221974	0.0186435	0.0722714	0.6867876	0.5768299	2.2025372	2.2025372
125	43:34.1	574285	6.35303E+12	5.57835E+13	5404.01	0.0221974	0.0194016	0.0723101	0.6867876	0.6002855	2.2037157	2.2037157
126	48:36.8	574285	6.35303E+12	5.57835E+13	5404.26	0.0221974	0.0191729	0.0723135	0.6867876	0.5932095	2.2038176	2.2038176
127	53:39.9	574285	6.35303E+12	5.57835E+13	5400.01	0.0221974	0.0194297	0.0722566	0.6867876	0.6011549	2.2020845	2.2020845
128	03:46.2	574285	6.35303E+12	5.57835E+13	5405.7	0.0234026	0.0195553	0.0723327	0.7240764	0.605041	2.2044049	2.2044049
129	08:49.1	574286	6.35303E+12	5.36818E+13	5416.95	0.0234026	0.0197148	0.0753209	0.7240764	0.6099759	2.2954736	2.2954736
130	13:52.7	574287	6.35303E+12	5.50908E+13	5406.6	0.0234026	0.0197013	0.0732543	0.7240764	0.6095582	2.2324921	2.2324921
131	18:55.9	574287	6.35303E+12	5.50908E+13	5394.62	0.0234026	0.0196918	0.073092	0.7240764	0.6092643	2.2275453	2.2275453
132	23:59.1	574288	6.35303E+12	5.6446E+13	5372.85	0.0234026	0.0197114	0.0710493	0.7240764	0.6098707	2.1652907	2.1652907
133	29:02.3	574288	6.35303E+12	5.6446E+13	5385.99	0.0234026	0.0197446	0.071223	0.7240764	0.6108979	2.1705862	2.1705862
134	34:05.2	574289	6.35303E+12	5.61643E+13	5382.26	0.0234026	0.0207871	0.0715308	0.7240764	0.6431529	2.1799641	2.1799641
135	39:08.3	574289	6.35303E+12	5.61643E+13	5380.01	0.0234026	0.0209181	0.0715009	0.7240764	0.647206	2.1790528	2.1790528
136	44:11.8	574289	6.35303E+12	5.61643E+13	5375.01	0.0234026	0.0204072	0.0714344	0.7240764	0.6313988	2.1770277	2.1770277
137	49:15.0	574290	6.35303E+12	5.56905E+13	5379.99	0.0234026	0.020967	0.0721089	0.7240764	0.648719	2.1975834	2.1975834
138	54:18.0	574292	6.35303E+12	5.59818E+13	5380.19	0.0234026	0.0210779	0.0717363	0.7240764	0.6521502	2.1862275	2.1862275
139	59:20.8	574293	6.35303E+12	5.63654E+13	5377.35	0.0234026	0.0210797	0.0712105	0.7240764	0.6522059	2.1702049	2.1702049
140	09:26.9	574295	6.35303E+12	5.71185E+13	5388.44	0.024677	0.020467	0.0704165	0.7635064	0.6437005	2.1460054	2.1460054
141	14:29.9	574298	6.35303E+12	5.77593E+13	5389.19	0.024677	0.0209776	0.0696449	0.7635064	0.6490469	2.122492	2.122492
142	19:32.9	574298	6.35303E+12	5.77593E+13	5388.39	0.024677	0.0233134	0.0696346	0.7635064	0.7213166	2.122177	2.122177
143	24:36.5	574298	6.35303E+12	5.77593E+13	5391.23	0.024677	0.0216334	0.0696713	0.7635064	0.6693374	2.1232955	2.1232955
144	29:39.5	574298	6.35303E+12	5.77593E+13	5399.68	0.024677	0.0249963	0.0697805	0.7635064	0.7733855	2.1266234	2.1266234
145	34:42.6	574300	6.35303E+12	5.74492E+13	5391.27	0.024677	0.02573	0.0700479	0.7635064	0.7960862	2.1347724	2.1347724
146	39:48.1	574301	6.35303E+12	5.7613E+13	5391.51	0.024677	0.0821753	0.0698519	0.7635064	2.5425038	2.1287995	2.5425038
147	44:52.1	574302	6.35303E+12	5.77583E+13	5394.15	0.024677	0.2145119	0.0697103	0.7635064	6.6369982	2.124483	6.6369982
148	49:55.9	574302	6.35303E+12	5.77583E+13	5395.41	0.024677	0.2152162	0.0697265	0.7635064	4.7126632	2.1249792	4.7126632
149	54:59.6	574304	6.35303E+12	5.7411E+13	5395.02	0.024677	0.1730318	0.0701433	0.7635064	5.3536039	2.1376815	5.3536039
150	00:04.8	574305	6.35303E+12	5.8471E+13	5392.07	0.0272334	0.1708133	0.068834	0.8426014	5.2849635	2.0977787	5.2849635
151	05:08.7	574305	6.35303E+12	5.8471E+13	5393.61	0.0272334	0.2130182	0.0688537	0.8426014	6.5907831	2.0983778	6.5907831
152	10:11.7	574305	6.35303E+12	5.8471E+13	5393.59	0.0272334	0.03673	0.0688534	0.8426014	1.1364262	2.09837	2.09837
153	20:17.3	574309	6.35303E+12	6.00748E+13	5397.01	0.0272334	0.0252878	0.0670578	0.8426014	0.7824045	2.0436461	2.0436461
154	25:20.4	574309	6.35303E+12	6.00748E+13	5396.19	0.0272334	0.02513	0.0670476	0.8426014	0.7775222	2.0433356	2.0433356
155	30:23.2	574310	6.35303E+12	6.02983E+13	5397.48	0.0272334	0.029264	0.0668151	0.8426014	0.9054282	2.0362495	2.0362495
156	35:25.9	574311	6.35303E+12	6.01255E+13	5402.84	0.0272334	0.0292724	0.0670736	0.8426014	0.9056881	2.044127	2.044127
157	40:29.3	574312	6.35303E+12	5.99055E+13	5397.41	0.0272334	0.0293249	0.0672522	0.8426014	0.9073124	2.0495721	2.0495721
158	45:32.2	574312	6.35303E+12	5.99055E+13	5395.01	0.0272334	0.0252257	0.0672223	0.8426014	0.7804832	2.0486608	2.0486608
159	50:35.3	574314	6.35303E+12	5.98595E+13	5392.41	0.0272334	0.02791	0.0672416	0.8426014	0.8635354	2.0492469	2.0492469
160	55:38.1	574315	6.35303E+12	5.97623E+13	5391.82	0.0272334	0.025482	0.0673436	0.8426014	0.7884131	2.0523565	2.0523565
161	00:42.4	574315	6.35303E+12	5.97623E+13	5387.9	0.0290471	0.2072917	0.0672946	0.8987173	6.4136052	2.0508644	6.4136052
162	05:45.3	574317	6.35303E+12	6.04051E+13	5388.49	0.0290471	0.206619	0.0665859	0.8987173	0.8249192	2.0292641	2.0292641
163	10:49.2	574319	6.35303E+12	6.0775E+13	5387.98	0.0290471	0.2202776	0.0661742	0.8987173	6.8153889	2.0167195	

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
190	32:11.0	574329	6.35303E+12	5.94855E+13	5414.16	0.029578	0.0265315	0.0679373	0.9151433	0.8208846	2.0704516	2.0704516
191	37:14.1	574330	6.35303E+12	5.97035E+13	5414.16	0.029578	0.0264993	0.0676893	0.9151433	0.8198883	2.0628912	2.0628912
192	52:22.4	574333	6.35303E+12	5.9734E+13	5406.27	0.029578	0.0263688	0.0675561	0.9151433	0.8158507	2.0588333	2.0588333
193	02:28.0	574334	6.35303E+12	5.92562E+13	5400.02	0.028458	0.0275794	0.0680221	0.8804905	0.8533066	2.0730351	2.0730351
194	07:31.0	574335	6.35303E+12	5.9018E+13	5400.05	0.028458	0.0264065	0.068297	0.8804905	0.8170171	2.0814126	2.0814126
195	12:34.3	574337	6.35303E+12	6.04407E+13	5403.81	0.028458	0.0264328	0.0667358	0.8804905	0.8178308	2.0338321	2.0338321
196	17:37.3	574338	6.35303E+12	6.00814E+13	5403.9	0.028458	0.0262088	0.067136	0.8804905	0.8109003	2.0460298	2.0460298
197	22:40.4	574340	6.35303E+12	6.01388E+13	5404.53	0.028458	0.0258082	0.0670798	0.8804905	0.7985057	2.0443159	2.0443159
198	27:43.7	574342	6.35303E+12	6.0482E+13	5405.01	0.028458	0.0262698	0.066705	0.8804905	0.8127876	2.0328944	2.0328944
199	32:46.8	574342	6.35303E+12	6.0482E+13	5405.02	0.028458	0.0252935	0.0667051	0.8804905	0.7825809	2.0328982	2.0328982
200	37:49.9	574343	6.35303E+12	5.99395E+13	5399.97	0.028458	0.02589	0.067246	0.8804905	0.8010366	2.0493813	2.0493813
201	42:52.7	574344	6.35303E+12	5.95861E+13	5399.01	0.028458	0.0257766	0.0676328	0.8804905	0.797528	2.0611697	2.0611697
202	47:55.6	574344	6.35303E+12	5.95861E+13	5399.01	0.028458	0.0264346	0.0676328	0.8804905	0.8178865	2.0611697	2.0611697
203	58:00.7	574344	6.35303E+12	5.95861E+13	5398.35	0.028458	0.0259627	0.0676245	0.8804905	0.8032859	2.0609177	2.0609177
204	03:05.1	574346	6.35303E+12	5.84022E+13	5395.14	0.0276119	0.0231391	0.0689544	0.8543122	0.847613	2.1014468	2.1014468
205	08:08.7	574347	6.35303E+12	5.86008E+13	5392.22	0.0276119	0.0261815	0.0686835	0.8543122	0.8100556	2.0931918	2.0931918
206	23:17.2	574348	6.35303E+12	5.87322E+13	5396.18	0.0276119	0.0261474	0.0685802	0.8543122	0.8090006	2.0900429	2.0900429
207	28:21.2	574349	6.35303E+12	5.84595E+13	5396.23	0.0276119	0.0220695	0.0689007	0.8543122	0.8283033	2.0998095	2.0998095
208	33:24.2	574349	6.35303E+12	5.84595E+13	5395.06	0.0276119	0.0357404	0.0688857	0.8543122	1.105808	2.0993542	2.0993542
209	38:27.1	574350	6.35303E+12	5.91267E+13	5395.03	0.0276119	0.0265231	0.0681081	0.8543122	0.8206247	2.0756546	2.0756546
210	43:30.0	574351	6.35303E+12	5.92508E+13	5395.02	0.0276119	0.0279653	0.0679653	0.8543122	0.7522442	2.071303	2.071303
211	48:32.9	574351	6.35303E+12	5.92508E+13	5394.15	0.0276119	0.0250697	0.0679543	0.8543122	0.7756565	2.070969	2.070969
212	53:35.7	574351	6.35303E+12	5.92508E+13	5390.52	0.0276119	0.0242897	0.0679086	0.8543122	0.7515233	2.0695753	2.0695753
213	58:38.6	574351	6.35303E+12	5.92508E+13	5391.4	0.0276119	0.0244875	0.0679197	0.8543122	0.7576432	2.0699132	2.0699132
214	03:41.5	574351	6.35303E+12	5.92508E+13	5383.02	0.0288024	0.0245448	0.0678141	0.8911463	0.7594161	2.0666958	2.0666958
215	08:44.3	574351	6.35303E+12	5.92508E+13	5371.99	0.0288024	0.0220851	0.0676752	0.8911463	0.683313	2.0624611	2.0624611
216	13:47.2	574351	6.35303E+12	5.92508E+13	5376.84	0.0288024	0.0221515	0.0677362	0.8911463	0.6853674	2.0643232	2.0643232
217	18:50.0	574353	6.35303E+12	5.95341E+13	5372.72	0.0288024	0.0237019	0.0673622	0.8911463	0.7333368	2.0529247	2.0529247
218	23:53.2	574353	6.35303E+12	5.95341E+13	5379.06	0.0288024	0.0224086	0.0674417	0.8911463	0.6933221	2.0553472	2.0553472
219	28:56.2	574353	6.35303E+12	5.95341E+13	5386.27	0.0288024	0.0242596	0.0675321	0.8911463	0.750592	2.0581021	2.0581021
220	33:59.0	574353	6.35303E+12	5.95341E+13	5393.51	0.0288024	0.0276229	0.0676229	0.8911463	0.7627236	2.0608686	2.0608686
221	39:01.9	574353	6.35303E+12	5.95341E+13	5397.98	0.0288024	0.024574	0.0676789	0.8911463	0.7603196	2.0625766	2.0625766
222	44:04.8	574354	6.35303E+12	5.92005E+13	5401.73	0.0288024	0.024264	0.0681077	0.8911463	0.7507282	2.0756429	2.0756429
223	49:08.5	574356	6.35303E+12	6.01278E+13	5395.44	0.0288024	0.0227333	0.0669792	0.8911463	0.7033683	2.0412523	2.0412523
224	54:11.6	574356	6.35303E+12	6.01278E+13	5400.19	0.0288024	0.0241575	0.0670382	0.8911463	0.7474331	2.0430494	2.0430494
225	59:14.8	574357	6.35303E+12	5.98782E+13	5407.34	0.0288024	0.0213869	0.0674068	0.8911463	0.6617107	2.054282	2.054282
226	04:17.8	574357	6.35303E+12	5.98782E+13	5412.65	0.0349955	0.0212221	0.067473	1.0827608	0.6566118	2.0562993	2.0562993
227	09:21.0	574358	6.35303E+12	5.94067E+13	5412.99	0.0349955	0.0210166	0.0680127	1.0827608	0.6502536	2.0727494	2.0727494
228	14:24.8	574359	6.35303E+12	5.99023E+13	5410.59	0.0349955	0.0212588	0.0674202	1.0827608	0.6577473	2.0546898	2.0546898
229	24:31.9	574360	6.35303E+12	6.0023E+13	5404.27	0.0349955	0.0221652	0.0672059	1.0827608	0.6857913	2.0481598	2.0481598
230	29:35.1	574361	6.35303E+12	5.95038E+13	5406.99	0.0349955	0.0219022	0.0678264	1.0827608	0.6776541	2.0670711	2.0670711
231	34:38.4	574361	6.35303E+12	5.95038E+13	5410.01	0.0349955	0.0238654	0.0678643	1.0827608	0.7383955	2.0682256	2.0682256
232	39:41.8	574361	6.35303E+12	5.95038E+13	5424.76	0.0349955	0.0349014	0.0680493	1.0827608	1.0798493	2.0738645	2.0738645
233	44:45.3	574362	6.35303E+12	5.87448E+13	5432.99	0.0349955	0.0231509	0.0690331	1.0827608	0.7162888	2.1038472	2.1038472
234	49:48.4	574362	6.35303E+12	5.87448E+13	5431.52	0.0349955	0.0217775	0.0690145	1.0827608	0.6737959	2.103278	2.103278
235	54:51.6	574363	6.35303E+12	5.80502E+13	5426.35	0.0349955	0.0233238	0.0697738	1.0827608	0.7216384	2.1264208	2.1264208
236	59:54.6	574363	6.35303E+12	5.80502E+13	5426.04	0.0349955	0.0316189	0.0697699	1.0827608	0.9782888	2.1262994	2.1262994
237	10:00.2	574364	6.35303E+12	5.78645E+13	5442.45	0.026266	0.0418451	0.0702054	0.81267	1.2946874	2.1395736	2.1395736
238	20:06.7	574367	6.35303E+12	5.84533E+13	5443.24	0.026266	0.0238876	0.0695083	0.81267	0.7390823	2.1183292	2.1183292
239	25:10.0	574368	6.35303E+12	5.81378E+13	5430.99	0.026266	0.0224401	0.0697283	0.81267	0.6942967	2.125032	2.125032
240	30:13.1	574368	6.35303E+12	5.81378E+13	5447.49	0.026266	0.0208024	0.0699401	0.81267	0.6436263	2.1314881	2.1314881
241	35:16.2	574369	6.35303E+12	5.7527E+13	5441.28	0.026266	0.0204883	0.0706021	0.81267	0.633908	2.151664	2.151664
242	40:20.4	574369	6.35303E+12	5.7527E+13	5444.99	0.026266	0.0193386	0.0706503	0.81267	0.5983363	2.151331	2.151331
243	45:23.4	574370	6.35303E+12	5.73316E+13	5445.99	0.026266	0.0193386	0.0709041	0.81267	0.5983363	2.1608665	2.1608665
244	50:26.5	574370	6.35303E+12	5.73316E+13	5466.65	0.026266	0.0188979	0.0711731	0.81267	0.584701	2.169064	2.169064
245	55:29.5	574372	6.35303E+12	5.7029E+13	5473.18	0.026266	0.0188979	0.0716362	0.81267	0.584701	2.1831762	2.1831762
246	00:32.4	574373	6.35303E+12	5.75391E+13	5470.2	0.0201854	0.0187891	0.0709624	0.6245363	0.5813348	2.1626439	2.1626439
247	05:35.4	574373	6.35303E+12	5.75391E+13	5471.01	0.0201854	0.0185387	0.0709729	0.6245363	0.5735874	2.1629641	2.1629641
248	15:40.8	574374	6.35303E+12	5.70787E+13	5460.95	0.0201854	0.0185472	0.0714138	0.6245363	0.5738504	2.1764008	2.1764008
249	25:46.4	574376	6.35303E+12	5.68162E+13	5458.6	0.0201854	0.0186796	0.0717129	0.6245363	0.5779468	2.1855137	2.1855137
250	35:51.9	574377	6.35303E+12	5.63276E+13	5460.02	0.0201854	0.0210142	0.0723538	0.6245363	0.6501793	2.2050485	2.2050485
251	40:54.8	574377	6.35303E+12	5.63276E+13	5466.78	0.0201854	0.0203564	0.0724434	0.6245363	0.629827	2.2077785	2.2077785
252	45:57.7	574378	6.35303E+12	5.65074E+13	5473.24	0.0201854	0.0203336	0.0722982	0.6245363	0.6291216	2.2033529	2.2033529
253	51:01.0	574378	6.35303E+12	5.65074E+13	5471.65	0.0201854	0.0199115	0.0722772	0.6245363	0.6160618	2.2027129	2.2027129
254	56:04.1	574378	6.35303E+12	5.65074E+13	5469.64	0.0201854	0.0188807	0.0722507	0.6245363	0.5841689	2.2019037	2.2019037
255	01:36.7	574383	6.35303E+12	5.72964E+13	5478.36	0.017735	0.0180056	0.0713693	0.5487209	0.5570933	2.1750424	2.1750424
256	06:39.8	574384	6.35303E+12	5.65611E+13	5470.62	0.017735	0.0179751	0.072195	0.5487209	0.5561496	2.2002079	2.2002079
257	11:42.7	574384	6.35303E+12	5.65611E+13	5479.43	0.017735	0.018023	0.0723113	0.5487209	0.5576316	2.2037511	2.2037511
258	16:45.6	574384	6.35303E+12	5.65611E+13	5474.09	0.						

1	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
284	33:06.2	574397	6.35303E+12	5.38389E+13	5549.85	0.0175068	0.0179475	0.0769437	0.5416604	0.5552957	2.3449279	2.3449279
285	38:09.0	574397	6.35303E+12	5.38389E+13	5562.7	0.0175068	0.0181763	0.0771218	0.5416604	0.5623747	2.3503573	2.3503573
286	43:11.9	574397	6.35303E+12	5.38389E+13	5576.66	0.0175068	0.0180946	0.0773154	0.5416604	0.5598469	2.3562557	2.3562557
287	48:15.5	574397	6.35303E+12	5.38389E+13	5591.65	0.0175068	0.0182001	0.0775232	0.5416604	0.5631111	2.3625893	2.3625893
288	53:18.6	574397	6.35303E+12	5.38389E+13	5576.07	0.0175068	0.0186904	0.0773072	0.5416604	0.572821	2.3560064	2.3560064
289	58:21.9	574398	6.35303E+12	5.24135E+13	5579.93	0.0175068	0.0187504	0.0794646	0.5416604	0.5801374	2.4217554	2.4217554
290	03:24.7	574399	6.35303E+12	5.22154E+13	5582.01	0.0177324	0.0190536	0.0797958	0.5486405	0.5895184	2.431849	2.431849
291	08:28.1	574399	6.35303E+12	5.22154E+13	5562.69	0.0177324	0.0191988	0.0795196	0.5486405	0.5940109	2.4234321	2.4234321
292	13:30.8	574400	6.35303E+12	5.19602E+13	5575.84	0.0177324	0.0190126	0.0800991	0.5486405	0.5882498	2.441092	2.441092
293	18:33.6	574400	6.35303E+12	5.19602E+13	5579.19	0.0177324	0.019119	0.0801472	0.5486405	0.5915419	2.4425586	2.4425586
294	23:36.6	574401	6.35303E+12	5.14241E+13	5571.19	0.0177324	0.01914	0.0808667	0.5486405	0.5921916	2.4644852	2.4644852
295	28:39.9	574401	6.35303E+12	5.14241E+13	5570.27	0.0177324	0.0192996	0.0808533	0.5486405	0.5971296	2.4640783	2.4640783
296	33:43.3	574402	6.35303E+12	5.15991E+13	5576.77	0.0177324	0.0192744	0.0806731	0.5486405	0.5963499	2.458585	2.458585
297	38:46.1	574403	6.35303E+12	5.16659E+13	5613.91	0.0177324	0.0199884	0.0811054	0.5486405	0.6184411	2.4717605	2.4717605
298	43:49.0	574404	6.35303E+12	5.22163E+13	5628.79	0.0177324	0.0195167	0.0804633	0.5486405	0.6038467	2.45219	2.45219
299	48:51.9	574405	6.35303E+12	5.26766E+13	5629.74	0.0177324	0.0214372	0.0797736	0.5486405	0.663267	2.4311707	2.4311707
300	53:54.6	574406	6.35303E+12	5.44332E+13	5687.49	0.0177324	0.0195852	0.077991	0.5486405	0.6059661	2.3768473	2.3768473
301	58:57.5	574407	6.35303E+12	5.44179E+13	5665.95	0.0177324	0.0195061	0.0777176	0.5486405	0.6035187	2.3685147	2.3685147
302	04:00.3	574407	6.35303E+12	5.44179E+13	5670.39	0.0185341	0.0184448	0.0777785	0.5734451	0.5706821	2.3703707	2.3703707
303	09:03.2	574408	6.35303E+12	5.43366E+13	5671.73	0.0185341	0.0190636	0.0779133	0.5734451	0.5898278	2.3744772	2.3744772
304	14:06.4	574409	6.35303E+12	5.45039E+13	5709.88	0.0185341	0.0193304	0.0781965	0.5734451	0.5980826	2.3831101	2.3831101
305	19:09.3	574409	6.35303E+12	5.45039E+13	5681.29	0.0185341	0.0195839	0.077805	0.5734451	0.6059259	2.3711776	2.3711776
306	24:12.6	574409	6.35303E+12	5.45039E+13	5681.4	0.0185341	0.021853	0.0778065	0.5734451	0.6761318	2.3712235	2.3712235
307	29:16.5	574410	6.35303E+12	5.4739E+13	5706.78	0.0185341	0.0200612	0.0778185	0.5734451	0.6206935	2.3715874	2.3715874
308	34:19.5	574410	6.35303E+12	5.4739E+13	5723.04	0.0185341	0.0209275	0.0780402	0.5734451	0.6474969	2.3783446	2.3783446
309	39:22.8	574410	6.35303E+12	5.4739E+13	5712.44	0.0185341	0.0210112	0.0778956	0.5734451	0.6500865	2.3739395	2.3739395
310	44:26.3	574410	6.35303E+12	5.4739E+13	5766.56	0.0185341	0.0207384	0.0786336	0.5734451	0.6416461	2.3963404	2.3963404
311	49:29.4	574410	6.35303E+12	5.4739E+13	5752.64	0.0185341	0.0222079	0.0784438	0.5734451	0.6871124	2.3906456	2.3906456
312	54:32.5	574411	6.35303E+12	5.33843E+13	5785.23	0.0185341	0.0227025	0.0808902	0.5734451	0.7024153	2.4652002	2.4652002
313	59:35.5	574412	6.35303E+12	5.33495E+13	5778.03	0.0185341	0.0248589	0.0808422	0.5734451	1.3260544	2.4637378	2.4637378
314	04:38.4	574412	6.35303E+12	5.33495E+13	5707.59	0.0231547	0.0241354	0.0798566	0.7164064	0.7467493	2.4337024	2.4337024
315	09:41.5	574412	6.35303E+12	5.33495E+13	5698.98	0.0231547	0.0216243	0.0797362	0.7164064	0.6690558	2.4300311	2.4300311
316	14:44.4	574412	6.35303E+12	5.33495E+13	5716.84	0.0231547	0.0224334	0.079986	0.7164064	0.6940894	2.4376465	2.4376465
317	19:47.4	574413	6.35303E+12	5.25253E+13	5727.04	0.0231547	0.0226368	0.081386	0.7164064	0.7003826	2.4803111	2.4803111
318	24:50.2	574413	6.35303E+12	5.25253E+13	5727.44	0.0231547	0.0213798	0.0813917	0.7164064	0.661491	2.4804844	2.4804844
319	29:53.5	574413	6.35303E+12	5.25253E+13	5735.97	0.0231547	0.0215261	0.0815129	0.7164064	0.7615726	2.4841786	2.4841786
320	34:56.2	574414	6.35303E+12	5.19701E+13	5739.52	0.0231547	0.0244526	0.0824347	0.7164064	0.7565634	2.5122723	2.5122723
321	39:58.9	574415	6.35303E+12	5.18073E+13	5733.01	0.0231547	0.0247503	0.0826	0.7164064	0.7657743	2.5173089	2.5173089
322	45:02.0	574418	6.35303E+12	5.19586E+13	5730.9	0.0231547	0.0246666	0.0823292	0.7164064	0.7631846	2.5090566	2.5090566
323	50:05.4	574420	6.35303E+12	5.25895E+13	5722.12	0.0231547	0.0217518	0.0812169	0.7164064	0.6730007	2.4751591	2.4751591
324	55:08.3	574421	6.35303E+12	5.25734E+13	5697.57	0.0231547	0.0231625	0.0808932	0.7164064	1.0879278	2.4652918	2.4652918
325	00:11.2	574421	6.35303E+12	5.25734E+13	5674.99	0.0262502	0.0227664	0.0805752	0.8121812	0.7043992	2.4555216	2.4555216
326	05:14.1	574423	6.35303E+12	5.29406E+13	5662.61	0.0262502	0.0211763	0.0798396	0.8121812	0.6551947	2.4331701	2.4331701
327	10:17.1	574424	6.35303E+12	5.28202E+13	5700.01	0.0262502	0.0212464	0.0805497	0.8121812	0.6573636	2.4548241	2.4548241
328	15:20.3	574424	6.35303E+12	5.28202E+13	5679.07	0.0262502	0.0274005	0.0802538	0.8121812	0.84792	2.4458059	2.4458059
329	20:23.5	574425	6.35303E+12	5.23532E+13	5686.98	0.0262502	0.0470867	0.0810825	0.8121812	1.4568625	2.471061	2.471061
330	25:27.5	574426	6.35303E+12	5.30049E+13	5674.69	0.0262502	0.2292147	0.0799125	0.8121812	0.7910928	2.435404	2.435404
331	30:31.9	574427	6.35303E+12	5.28466E+13	5692.52	0.0262502	0.2216174	0.0804036	0.8121812	0.68568424	2.4503724	2.4503724
332	35:34.7	574427	6.35303E+12	5.28466E+13	5694.01	0.0262502	0.0471417	0.0804247	0.8121812	1.4585642	2.4510138	2.4510138
333	40:37.2	574428	6.35303E+12	5.2354E+13	5713.35	0.0262502	0.026834	0.0814571	0.8121812	0.830244	2.4824794	2.4824794
334	45:39.9	574428	6.35303E+12	5.2354E+13	5716.19	0.0262502	0.0271429	0.0814976	0.8121812	0.8398013	2.4837134	2.4837134
335	50:43.0	574428	6.35303E+12	5.2354E+13	5717.38	0.0262502	0.0274218	0.0815146	0.8121812	0.8484305	2.4842305	2.4842305
336	55:46.3	574429	6.35303E+12	5.15634E+13	5710.01	0.0262502	0.0231901	0.0826578	0.8121812	0.7175017	2.5190709	2.5190709
337	00:48.9	574429	6.35303E+12	5.15634E+13	5698.38	0.026897	0.0217524	0.0824894	0.8321932	0.6730193	2.5139401	2.5139401
338	05:51.7	574429	6.35303E+12	5.15634E+13	5709.41	0.026897	0.0217524	0.0826491	0.8321932	0.6730193	2.5188062	2.5188062
339	10:54.7	574430	6.35303E+12	5.12815E+13	5715.13	0.026897	0.0226581	0.0831866	0.8321932	0.7010416	2.5351866	2.5351866
340	15:57.5	574430	6.35303E+12	5.12815E+13	5712.23	0.026897	0.0229356	0.0831444	0.8321932	0.7096275	2.5339002	2.5339002
341	21:00.5	574430	6.35303E+12	5.12815E+13	5713.4	0.026897	0.0229256	0.0831614	0.8321932	0.7093181	2.5344192	2.5344192
342	26:04.3	574430	6.35303E+12	5.12815E+13	5723.95	0.026897	0.0230408	0.083315	0.8321932	0.7131051	2.5390991	2.5390991
343	31:07.1	574430	6.35303E+12	5.12815E+13	5735.36	0.026897	0.0238875	0.0834811	0.8321932	0.7390793	2.5441605	2.5441605
344	36:10.4	574430	6.35303E+12	5.12815E+13	5739.01	0.026897	0.0236472	0.0835342	0.8321932	0.7316444	2.5457796	2.5457796
345	41:13.2	574430	6.35303E+12	5.12815E+13	5741.24	0.026897	0.0239907	0.0835666	0.8321932	0.7422723	2.5467688	2.5467688
346	46:16.4	574430	6.35303E+12	5.12815E+13	5724.65	0.026897	0.0464448	0.0833252	0.8321932	1.4370021	2.5394096	2.5394096
347	56:21.7	574432	6.35303E+12	4.99455E+13	5715.44	0.026897	0.0462772	0.0854165	0.8321932	1.4316619	2.6031435	2.6031435
348	01:25.6	574432	6.35303E+12	4.99455E+13	5710.99	0.026856	0.0265005	0.08535	0.8309246	0.8060025	2.6011167	2.6011167
349	06:28.6	574433	6.35303E+12	4.98413E+13	5720.19	0.026856	0.0232273	0.0856661	0.8309246	0.7186527	2.6107513	2.6107513
350	11:32.0	574435	6.35303E+12	4.97656E+13	5727.69	0.026856	0.0241208	0.085909	0.8309246	0.7462976	2.6181535	2.6181535
351	16:35.1	574435	6.35303E+12	4.97656E+13	5726.31	0.026856	0.0265562	0.0858883	0.8309246	0.8216488		

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	38:00.1	574451	6.35303E+12	5.07309E+13	5728.02	0.0285642	0.0251649	0.0842791	0.8837763	0.778602	2.5684819	2.5684819
379	43:02.9	574453	6.35303E+12	5.08262E+13	5712.01	0.0285642	0.0253148	0.083886	0.8837763	0.7832399	2.5565013	2.5565013
380	48:06.0	574454	6.35303E+12	5.11925E+13	5714.36	0.0285642	0.0241284	0.08332	0.8837763	0.7465327	2.5392517	2.5392517
381	53:08.8	574454	6.35303E+12	5.11925E+13	5702.85	0.0285642	0.0233991	0.0831522	0.8837763	0.7239682	2.5341371	2.5341371
382	58:11.8	574454	6.35303E+12	5.11925E+13	5709.89	0.0285642	0.0231231	0.0832548	0.8837763	0.7154287	2.5372654	2.5372654
383	03:14.8	574454	6.35303E+12	5.11925E+13	5717.23	0.0308666	0.0242656	0.0833618	0.9550126	0.7507777	2.540527	2.540527
384	08:17.7	574454	6.35303E+12	5.11925E+13	5705.48	0.0308666	0.0233018	0.0831905	0.9550126	0.7209577	2.5353057	2.5353057
385	13:21.1	574454	6.35303E+12	5.11925E+13	5717.65	0.0308666	0.0235938	0.083368	0.9550126	0.7299922	2.5407136	2.5407136

Bearbox v Lancium
Trial Exhibit
TX920-8

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Appx13435

BB10000919

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
2	18:57.8	574204	6.35303E+12	5.38327E+13	5320.85	0.0060427	0.005385	0.0737773	0.1869611	0.1666119	2.2484294	2.2484294
3	24:01.3	574204	6.35303E+12	5.38327E+13	5320.01	0.0060427	0.0064427	0.0737656	0.1869611	0.1993371	2.2480744	2.2480744
4	29:04.5	574204	6.35303E+12	5.38327E+13	5319.53	0.0060427	0.0066197	0.073759	0.1869611	0.2048135	2.2478716	2.2478716
5	34:07.5	574204	6.35303E+12	5.38327E+13	5323.01	0.0060427	0.0050811	0.0738072	0.1869611	0.1572092	2.2493421	2.2493421
6	39:10.8	574205	6.35303E+12	5.30839E+13	5321.95	0.0060427	0.0039673	0.0748335	0.1869611	0.1227483	2.2806172	2.2806172
7	44:13.7	574205	6.35303E+12	5.30839E+13	5326.49	0.0060427	0.0026429	0.0748973	0.1869611	0.0817713	2.2825627	2.2825627
8	49:17.3	574206	6.35303E+12	5.44532E+13	5325.49	0.0060427	0.0055617	0.0730003	0.1869611	0.172079	2.2247506	2.2247506
9	54:21.0	574207	6.35303E+12	5.39845E+13	5329.01	0.0060427	0.0078101	0.0736827	0.1869611	0.2416445	2.2455467	2.2455467
10	59:24.0	574207	6.35303E+12	5.39845E+13	5325.97	0.0060427	0.0013496	0.0736407	0.1869611	0.0417566	2.2442657	2.2442657
11	04:26.9	574208	6.35303E+12	5.34662E+13	5326.24	0.0010725	0.0028982	0.0743583	0.0331832	0.0896703	2.2661373	2.2661373
12	09:29.9	574208	6.35303E+12	5.34662E+13	5325.01	0.0010725	-0.0032033	0.0743412	0.0331832	-0.0991101	2.2656139	2.2656139
13	14:32.8	574209	6.35303E+12	5.33477E+13	5321.61	0.0010725	-0.0082933	0.0744587	0.0331832	-0.2565947	2.2691954	2.2691954
14	19:35.8	574209	6.35303E+12	5.33477E+13	5321.01	0.0010725	0.0010456	0.0744503	0.0331832	0.0323509	2.2689395	2.2689395
15	24:38.8	574210	6.35303E+12	5.36221E+13	5327.95	0.0010725	0.001341	0.074166	0.0331832	0.0414905	2.2602762	2.2602762
16	29:41.7	574212	6.35303E+12	5.54528E+13	5327.05	0.0010725	-0.0189529	0.0717053	0.0331832	-0.5864027	2.185285	2.185285
17	34:44.6	574212	6.35303E+12	5.54528E+13	5323.36	0.0010725	-0.0315616	0.0716557	0.0331832	-0.9765159	2.1837713	2.1837713
18	39:47.5	574215	6.35303E+12	5.58834E+13	5323.1	0.0010725	-0.0309173	0.0711001	0.0331832	-0.9565813	2.1668382	2.1668382
19	44:50.4	574215	6.35303E+12	5.58834E+13	5323.1	0.0010725	-0.0300668	0.0711001	0.0331832	-0.9302668	2.1668382	2.1668382
20	49:53.4	574215	6.35303E+12	5.58834E+13	5326.69	0.0010725	-0.0266166	0.071148	0.0331832	-0.8235176	2.1682995	2.1682995
21	54:56.2	574215	6.35303E+12	5.58834E+13	5326.7	0.0010725	-0.031087	0.0711481	0.0331832	-0.9618318	2.1683036	2.1683036
22	59:59.2	574216	6.35303E+12	5.54406E+13	5326.69	0.0010725	-0.0320125	0.0717163	0.0331832	-0.9904668	2.1856184	2.1856184
23	05:02.6	574216	6.35303E+12	5.54406E+13	5330.34	0.0004616	-0.0310784	0.0717654	0.0142819	-0.9615657	2.187116	2.187116
24	10:05.7	574219	6.35303E+12	5.59245E+13	5326.73	0.0004616	-0.0029138	0.0710963	0.0142819	-0.090153	2.1667245	2.1667245
25	15:08.7	574220	6.35303E+12	5.59914E+13	5330.77	0.0004616	-0.0189733	0.0710652	0.0142819	-0.5870339	2.1657754	2.1657754
26	20:11.5	574220	6.35303E+12	5.59914E+13	5343.74	0.0004616	-0.0173406	0.0712381	0.0142819	-0.5365182	2.1710449	2.1710449
27	25:14.5	574224	6.35303E+12	5.59847E+13	5336.19	0.0004616	-0.0300341	0.071146	0.0142819	-0.9292551	2.168237	2.168237
28	30:17.5	574226	6.35303E+12	5.60441E+13	5332.48	0.0004616	-0.0260257	0.0710211	0.0142819	-0.8052352	2.1644326	2.1644326
29	35:20.7	574227	6.35303E+12	5.56725E+13	5331.92	0.0004616	-0.0190855	0.0714877	0.0142819	-0.5905054	2.1786519	2.1786519
30	40:24.0	574227	6.35303E+12	5.56725E+13	5332.07	0.0004616	-0.0196742	0.0714897	0.0142819	-0.6087197	2.1787132	2.1787132
31	45:26.9	574227	6.35303E+12	5.56725E+13	5339.99	0.0004616	-0.0193638	0.0715959	0.0142819	-0.599116	2.1819493	2.1819493
32	50:29.9	574228	6.35303E+12	5.52451E+13	5343.15	0.0004616	-0.0290785	0.0721925	0.0142819	-0.8996888	2.2001303	2.2001303
33	55:32.9	574229	6.35303E+12	5.5892E+13	5339.93	0.0004616	-0.0235031	0.0713139	0.0142819	-0.7271859	2.1733552	2.1733552
34	00:36.0	574229	6.35303E+12	5.5892E+13	5339.62	0.0003683	-0.0186023	0.0713098	0.0113952	-0.5755552	2.173229	2.173229
35	05:38.8	574229	6.35303E+12	5.5892E+13	5340.81	0.0003683	-0.030799	0.0713256	0.0113952	-0.9529211	2.1737133	2.1737133
36	10:41.7	574229	6.35303E+12	5.5892E+13	5346.19	0.0003683	-0.0302803	0.0713975	0.0113952	-0.9368725	2.175903	2.175903
37	15:45.1	574230	6.35303E+12	5.53347E+13	5351.26	0.0003683	-0.030195	0.0721489	0.0113952	-0.9342333	2.1999008	2.1999008
38	20:48.1	574231	6.35303E+12	5.49411E+13	5348.15	0.0003683	-0.0280841	0.0726599	0.0113952	-0.8689221	2.2143761	2.2143761
39	25:51.1	574231	6.35303E+12	5.49411E+13	5345.35	0.0003683	-0.028219	0.0726219	0.0113952	-0.8730959	2.2132168	2.2132168
40	30:54.2	574231	6.35303E+12	5.49411E+13	5345.27	0.0003683	-0.0269783	0.0726208	0.0113952	-0.8347086	2.2131836	2.2131836
41	35:57.2	574232	6.35303E+12	5.47061E+13	5350.24	0.0003683	-0.0274456	0.0730005	0.0113952	-0.8491669	2.2247569	2.2247569
42	41:00.3	574232	6.35303E+12	5.47061E+13	5346.06	0.0003683	-0.0274731	0.0729435	0.0113952	-0.8500177	2.2230187	2.2230187
43	46:03.7	574232	6.35303E+12	5.47061E+13	5353.06	0.0003683	-0.0289024	0.073039	0.0113952	-0.8942403	2.2259295	2.2259295
44	51:06.6	574232	6.35303E+12	5.47061E+13	5358.68	0.0003683	-0.0281664	0.0731157	0.0113952	-0.8714684	2.2282664	2.2282664
45	56:09.5	574232	6.35303E+12	5.47061E+13	5361.44	0.0003683	-0.0264087	0.0731533	0.0113952	-0.8170852	2.2294141	2.2294141
46	01:12.5	574232	6.35303E+12	5.47061E+13	5374.99	0.0029068	-0.0263978	0.0733382	0.0899364	-0.8167479	2.2350485	2.2350485
47	06:15.5	574233	6.35303E+12	5.35475E+13	5374.51	0.0029068	-0.0027561	0.0749183	0.0899364	-0.0852737	2.2832021	2.2832021
48	11:18.3	574233	6.35303E+12	5.35475E+13	5358.81	0.0029068	-0.0007245	0.0746994	0.0899364	-0.022416	2.2765324	2.2765324
49	16:21.5	574233	6.35303E+12	5.35475E+13	5364.9	0.0029068	-0.0182589	0.0747843	0.0899364	-0.5649304	2.2791195	2.2791195
50	21:24.5	574234	6.35303E+12	5.31615E+13	5359.77	0.0029068	-0.0018612	0.0752553	0.0899364	-0.0575855	2.293473	2.293473
51	26:27.4	574234	6.35303E+12	5.31615E+13	5359.03	0.0029068	-0.0145596	0.0752449	0.0899364	-0.450474	2.2931563	2.2931563
52	31:30.3	574234	6.35303E+12	5.31615E+13	5350.15	0.0029068	-0.0032024	0.0751202	0.0899364	-0.0990823	2.2893565	2.2893565
53	36:33.4	574234	6.35303E+12	5.31615E+13	5341.65	0.0029068	-0.0159588	0.0750009	0.0899364	-0.4937653	2.2857193	2.2857193
54	41:37.6	574236	6.35303E+12	5.29706E+13	5347.88	0.0029068	-0.031347	0.075359	0.0899364	-0.9698762	2.2966332	2.2966332
55	46:40.5	574237	6.35303E+12	5.26741E+13	5351.2	0.0029068	-0.0299955	0.0758303	0.0899364	-0.9280608	2.3109964	2.3109964
56	51:43.8	574238	6.35303E+12	5.2719E+13	5355.44	0.0029068	-0.005314	0.0758257	0.0899364	-0.1644152	2.3108556	2.3108556
57	56:47.1	574238	6.35303E+12	5.2719E+13	5345.98	0.0029068	-0.0015188	0.0756917	0.0899364	-0.0469917	2.3067736	2.3067736
58	01:50.1	574239	6.35303E+12	5.28168E+13	5350.18	0.0123358	-0.0315408	0.0756109	0.3816697	-0.9758724	2.3043114	2.3043114
59	06:52.9	574240	6.35303E+12	5.25658E+13	5350.99	0.0123358	-0.0303257	0.0759835	0.3816697	-0.9382772	2.3156641	2.3156641
60	11:55.9	574242	6.35303E+12	5.34165E+13	5348.27	0.0123358	9.42E-05	0.0747354	0.3816697	0.0029145	2.2776282	2.2776282
61	16:58.9	574243	6.35303E+12	5.35108E+13	5354.48	0.0123358	0.0004518	0.0746903	0.3816697	0.0139787	2.2762553	2.2762553
62	22:01.8	574245	6.35303E+12	5.38531E+13	5359.65	0.0123358	0.0010006	0.0742872	0.3816697	0.0309586	2.2639687	2.2639687
63	27:04.8	574246	6.35303E+12	5.41667E+13	5357.51	0.0123358	-0.0032478	0.0738276	0.3816697	-0.1004869	2.2499632	2.2499632
64	32:07.7	574246	6.35303E+12	5.41667E+13	5361.99	0.0123358	-0.0012084	0.0738894	0.3816697	-0.0373879	2.2518446	2.2518446
65	37:10.8	574246	6.35303E+12	5.41667E+13	5361.98	0.0123358	0.0049192	0.0738892	0.3816697	0.1522	2.2518404	2.2518404
66	42:13.6	574246	6.35303E+12	5.41667E+13	5366.22	0.0123358	-0.0153369	0.0739476	0.3816697	-0.4745237	2.2536211	2.2536211
67	47:16.4	574249	6.35303E+12	5.43573E+13	5361.59	0.0123358	-0.0012324	0.0736247	0.3816697	-0.03818	2.2437799	2.2437799
68	52:19.3	574251	6.35303E+12	5.52479E+13	5360.9	0.0123358	0.0019206	0.0724286	0.3816697	0.0594234	2.2073275	2.2073275
69	57:22.2	574251	6.35303E+12	5.52479E+13	5354.26	0.0123358	0.0019529	0.0723389	0.3816697	0.0604227	2.2045935	2.2045935
70	02:25.2	574252	6.35303E+12	5.50584E+13	5358.27	0.0171547	0.0052837	0.072642				

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
96	13:48.7	574269	6.35303E+12	5.58958E+13	5350.35	0.0192201	0.0089234	0.0714482	0.5946699	0.27609	2.1774474	2.1774474
97	18:51.9	574270	6.35303E+12	5.6144E+13	5350.01	0.0192201	0.0083345	0.0711278	0.5946699	0.2578694	2.1676825	2.1676825
98	23:54.8	574271	6.35303E+12	5.6095E+13	5356.14	0.0192201	0.0081467	0.0712715	0.5946699	0.2520589	2.172064	2.172064
99	28:57.8	574271	6.35303E+12	5.6095E+13	5348.01	0.0192201	0.0080171	0.0711633	0.5946699	0.2480491	2.168767	2.168767
100	34:00.7	574272	6.35303E+12	5.54087E+13	5356.18	0.0192201	0.0081756	0.0721548	0.5946699	0.2529531	2.1989837	2.1989837
101	39:03.7	574273	6.35303E+12	5.53104E+13	5355.34	0.0192201	0.0085978	0.0722717	0.5946699	0.2660159	2.2025454	2.2025454
102	44:07.1	574274	6.35303E+12	5.53441E+13	5355.28	0.0192201	0.0106277	0.072227	0.5946699	0.328821	2.2011814	2.2011814
103	49:10.1	574274	6.35303E+12	5.53441E+13	5354.11	0.0192201	0.0119739	0.0722112	0.5946699	0.3704725	2.2007005	2.2007005
104	54:13.2	574274	6.35303E+12	5.53441E+13	5355.14	0.0192201	0.0170918	0.0722251	0.5946699	0.5288203	2.2011238	2.2011238
105	59:16.2	574274	6.35303E+12	5.53441E+13	5369.69	0.0192201	0.0147439	0.0724213	0.5946699	0.4561763	2.2071043	2.2071043
106	04:19.1	574274	6.35303E+12	5.53441E+13	5370.68	0.0216772	0.0099164	0.0724347	0.6706926	0.3068134	2.2075112	2.2075112
107	09:22.5	574274	6.35303E+12	5.53441E+13	5367.34	0.0216772	0.0091219	0.0723896	0.6706926	0.2822316	2.2061384	2.2061384
108	14:25.5	574274	6.35303E+12	5.53441E+13	5364.39	0.0216772	0.0156346	0.0723498	0.6706926	0.4837345	2.2049258	2.2049258
109	19:28.4	574275	6.35303E+12	5.36343E+13	5366.28	0.0216772	0.0160516	0.0746825	0.6706926	0.4966365	2.276015	2.276015
110	24:31.3	574275	6.35303E+12	5.36343E+13	5371.27	0.0216772	0.0160404	0.0747519	0.6706926	0.49629	2.2781314	2.2781314
111	29:34.0	574275	6.35303E+12	5.36343E+13	5369.89	0.0216772	0.0158588	0.0747327	0.6706926	0.4906713	2.2775461	2.2775461
112	34:37.0	574277	6.35303E+12	5.50501E+13	5373.89	0.0216772	0.0200104	0.0728651	0.6706926	0.6191218	2.2206282	2.2206282
113	39:39.9	574280	6.35303E+12	5.61893E+13	5386.3	0.0216772	0.0192174	0.0715525	0.6706926	0.5945864	2.1806275	2.1806275
114	44:42.8	574281	6.35303E+12	5.67946E+13	5376.94	0.0216772	0.0172971	0.070667	0.6706926	0.5351723	2.1536405	2.1536405
115	49:45.4	574281	6.35303E+12	5.67946E+13	5380.34	0.0216772	0.0171393	0.0707117	0.6706926	0.5302899	2.1550023	2.1550023
116	54:48.5	574282	6.35303E+12	5.6096E+13	5376.01	0.0216772	0.0134753	0.0715347	0.6706926	0.4169258	2.1800845	2.1800845
117	59:51.6	574282	6.35303E+12	5.6096E+13	5379.99	0.0216772	0.0180380	0.0715877	0.6706926	0.557873	2.1816984	2.1816984
118	04:54.7	574283	6.35303E+12	5.56063E+13	5387.53	0.0236157	0.0178982	0.0723193	0.7306698	0.5537703	2.2039945	2.2039945
119	09:58.2	574283	6.35303E+12	5.56063E+13	5404.49	0.0236157	0.0199601	0.0725469	0.7306698	0.6175655	2.2109326	2.2109326
120	15:01.2	574283	6.35303E+12	5.56063E+13	5410.8	0.0236157	0.019843	0.0726316	0.7306698	0.6139424	2.213514	2.213514
121	20:04.6	574284	6.35303E+12	5.64188E+13	5402.18	0.0236157	0.0211652	0.0714716	0.7306698	0.6548513	2.1781617	2.1781617
122	25:08.2	574284	6.35303E+12	5.64188E+13	5401.01	0.0236157	0.0207169	0.0714561	0.7306698	0.6409809	2.17769	2.17769
123	30:11.3	574285	6.35303E+12	5.57835E+13	5408.19	0.0236157	0.0202099	0.0723657	0.7306698	0.6252943	2.2054203	2.2054203
124	35:14.3	574285	6.35303E+12	5.57835E+13	5399.01	0.0236157	0.0197121	0.0722432	0.7306698	0.6098924	2.2016767	2.2016767
125	40:17.3	574285	6.35303E+12	5.57835E+13	5401.14	0.0236157	0.0205203	0.0722717	0.7306698	0.6348981	2.2025453	2.2025453
126	45:20.2	574285	6.35303E+12	5.57835E+13	5401.12	0.0236157	0.020253	0.0722714	0.7306698	0.6266278	2.2025372	2.2025372
127	50:23.3	574285	6.35303E+12	5.57835E+13	5404.01	0.0236157	0.0204966	0.0723101	0.7306698	0.6341648	2.2037157	2.2037157
128	55:26.4	574285	6.35303E+12	5.57835E+13	5402.66	0.0236157	0.0204779	0.0722292	0.7306698	0.6335862	2.2031652	2.2031652
129	00:29.5	574285	6.35303E+12	5.57835E+13	5405.56	0.0246623	0.0205394	0.0723309	0.7630516	0.635489	2.2043478	2.2043478
130	05:32.6	574285	6.35303E+12	5.57835E+13	5408.51	0.0246623	0.020696	0.0723703	0.7630516	0.6403342	2.2055508	2.2055508
131	10:35.6	574286	6.35303E+12	5.36818E+13	5410.26	0.0246623	0.0206614	0.0752279	0.7630516	0.6392637	2.2926386	2.2926386
132	15:38.9	574287	6.35303E+12	5.50908E+13	5405.01	0.0246623	0.0206639	0.0732328	0.7630516	0.6393411	2.2318356	2.2318356
133	20:42.0	574287	6.35303E+12	5.50908E+13	5377.7	0.0246623	0.0207146	0.0728628	0.7630516	0.6409097	2.2205587	2.2205587
134	25:45.3	574288	6.35303E+12	5.6446E+13	5379.31	0.0246623	0.0207073	0.0711347	0.7630516	0.6406839	2.1678941	2.1678941
135	30:48.4	574289	6.35303E+12	5.61643E+13	5386.34	0.0246623	0.0217617	0.071585	0.7630516	0.673307	2.1816166	2.1816166
136	35:51.4	574289	6.35303E+12	5.61643E+13	5386.22	0.0246623	0.0218403	0.0715834	0.7630516	0.6757389	2.181568	2.181568
137	40:54.5	574289	6.35303E+12	5.61643E+13	5380.96	0.0246623	0.0212653	0.0715135	0.7630516	0.6579484	2.1794376	2.1794376
138	45:57.5	574289	6.35303E+12	5.61643E+13	5373.11	0.0246623	0.0218465	0.0714091	0.7630516	0.6760235	2.1762581	2.1762581
139	51:00.5	574290	6.35303E+12	5.56905E+13	5379.99	0.0246623	0.0219329	0.0721089	0.7630516	0.6786039	2.1975834	2.1975834
140	56:03.8	574293	6.35303E+12	5.63654E+13	5381.68	0.0246623	0.0219044	0.0712679	0.7630516	0.6777221	2.1719525	2.1719525
141	01:07.0	574294	6.35303E+12	5.66874E+13	5378.02	0.0258006	0.02135	0.0708148	0.7982706	0.660569	2.1581456	2.1581456
142	06:09.8	574295	6.35303E+12	5.71185E+13	5388.44	0.0258006	0.0215474	0.0704165	0.7982706	0.6666766	2.1460054	2.1460054
143	11:12.8	574296	6.35303E+12	5.69506E+13	5391.26	0.0258006	0.0217122	0.070661	0.7982706	0.6717755	2.1534583	2.1534583
144	16:15.8	574298	6.35303E+12	5.77593E+13	5388.44	0.0258006	0.0240987	0.0696352	0.7982706	0.7456138	2.1221966	2.1221966
145	21:19.0	574298	6.35303E+12	5.77593E+13	5388.43	0.0258006	0.0223207	0.0696351	0.7982706	0.6906025	2.1221927	2.1221927
146	26:22.1	574298	6.35303E+12	5.77593E+13	5393.86	0.0258006	0.0257788	0.0697053	0.7982706	0.7975961	2.1243313	2.1243313
147	31:25.5	574300	6.35303E+12	5.74492E+13	5390.38	0.0258006	0.0265151	0.0700363	0.7982706	0.8203772	2.13442	2.13442
148	36:29.7	574301	6.35303E+12	5.7613E+13	5391.27	0.0258006	0.0846763	0.0698488	0.7982706	2.6198847	2.1287047	2.1287047
149	41:33.9	574301	6.35303E+12	5.7613E+13	5391.2	0.0258006	0.2210761	0.0698479	0.7982706	6.8400945	2.1286771	2.1286771
150	46:37.9	574302	6.35303E+12	5.77583E+13	5394.99	0.0258006	0.1570346	0.0697211	0.7982706	4.8586505	2.1248138	2.1248138
151	51:42.1	574302	6.35303E+12	5.77583E+13	5394.99	0.0258006	0.1785148	0.0697211	0.7982706	5.5232479	2.1248138	2.1248138
152	56:46.2	574305	6.35303E+12	5.8471E+13	5394.98	0.0258006	0.1762844	0.0688712	0.7982706	5.4542393	2.0989108	2.0989108
153	01:50.2	574305	6.35303E+12	5.8471E+13	5392.44	0.0281961	0.2198672	0.0688387	0.8723873	6.8026912	2.0979226	2.0979226
154	06:53.7	574305	6.35303E+12	5.8471E+13	5392.99	0.0281961	0.0379209	0.0688458	0.8723873	1.1732726	2.0981366	2.0981366
155	11:56.7	574306	6.35303E+12	5.85526E+13	5393.03	0.0281961	0.0286261	0.0687504	0.8723873	0.8744294	2.0952297	2.0952297
156	17:00.1	574309	6.35303E+12	6.00748E+13	5396.48	0.0281961	0.0258381	0.0670512	0.8723873	0.7822591	2.0434454	2.0434454
157	22:03.0	574309	6.35303E+12	6.00748E+13	5397.01	0.0281961	0.0261016	0.0670578	0.8723873	0.8075835	2.0436461	2.0436461
158	27:06.2	574310	6.35303E+12	6.02983E+13	5396.19	0.0281961	0.0259345	0.0667991	0.8723873	0.8024134	2.0357628	2.0357628
159	32:09.2	574311	6.35303E+12	6.01255E+13	5399.99	0.0281961	0.0302117	0.0670382	0.8723873	0.93475	2.0430488	2.0430488
160	37:12.3	574311	6.35303E+12	6.01255E+13	5396.83	0.0281961	0.0302065	0.0669989	0.8723873	0.9345891	2.0418532	2.0418532
161	42:16.0	574312	6.35303E+12	5.99055E+13	5396.6	0.0281961	0.0302581	0.0672421	0.8723873	0.9361856	2.0492645	2.0492645
162	47:18.9	574312	6.35303E+12	5.99055E+13	5395.6	0.0281961	0.0260237	0.0672297	0.8723873	0.8051733	2.0488848	2.0488848
163	52:22.0	574315	6.35303E+12	5.97623E+13	5391.32	0.0281961	0.0287961	0.0673373	0.8723873	0.8909513		

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
190	08:45.0	574327	6.35303E+12	5.96067E+13	5401.47	0.030273	0.0287712	0.0676402	0.9366466	0.8901809	2.0613959	2.0613959
191	13:48.1	574327	6.35303E+12	5.96067E+13	5402.02	0.030273	0.0276182	0.0676471	0.9366466	0.8545071	2.0616058	2.0616058
192	18:51.1	574328	6.35303E+12	5.96752E+13	5405.01	0.030273	0.0258534	0.0676069	0.9366466	0.7999042	2.0603812	2.0603812
193	23:54.0	574328	6.35303E+12	5.96752E+13	5405.54	0.030273	0.0273201	0.0676135	0.9366466	0.8452839	2.0605832	2.0605832
194	28:57.0	574328	6.35303E+12	5.96752E+13	5411.23	0.030273	0.0271151	0.0676847	0.9366466	0.8389412	2.0627523	2.0627523
195	34:00.5	574329	6.35303E+12	5.94855E+13	5414.16	0.030273	0.0272609	0.0679373	0.9366466	0.8434522	2.0704516	2.0704516
196	39:03.4	574330	6.35303E+12	5.97035E+13	5414.16	0.030273	0.0272442	0.0676893	0.9366466	0.8429355	2.0628912	2.0628912
197	44:06.6	574331	6.35303E+12	5.96567E+13	5414.18	0.030273	0.0259561	0.0677426	0.9366466	0.8030817	2.0645162	2.0645162
198	49:10.2	574333	6.35303E+12	5.9734E+13	5407.51	0.030273	0.0270756	0.0675716	0.9366466	0.8377191	2.0593055	2.0593055
199	54:13.3	574333	6.35303E+12	5.9734E+13	5400.01	0.030273	0.0271004	0.0674779	0.9366466	0.8384864	2.0564494	2.0564494
200	59:16.4	574334	6.35303E+12	5.92562E+13	5403.78	0.030273	0.0273779	0.0680695	0.9366466	0.8470722	2.0744785	2.0744785
201	04:19.8	574335	6.35303E+12	5.9018E+13	5401.4	0.0290851	0.0283354	0.0683141	0.899893	0.8773161	2.0819329	2.0819329
202	09:23.3	574335	6.35303E+12	5.9018E+13	5400.65	0.0290851	0.0271462	0.0683046	0.899893	0.8399034	2.0816439	2.0816439
203	14:26.3	574337	6.35303E+12	6.04407E+13	5403.84	0.0290851	0.0271793	0.0667361	0.899893	0.8409275	2.0338434	2.0338434
204	19:29.7	574338	6.35303E+12	6.00814E+13	5403.99	0.0290851	0.0269492	0.0671371	0.899893	0.8338082	2.0460639	2.0460639
205	24:32.5	574341	6.35303E+12	6.05704E+13	5406.15	0.0290851	0.0265213	0.0666217	0.899893	0.820569	2.0303561	2.0303561
206	29:35.5	574342	6.35303E+12	6.0482E+13	5405.72	0.0290851	0.0269952	0.0667137	0.899893	0.8352315	2.0331615	2.0331615
207	34:38.6	574343	6.35303E+12	5.99395E+13	5402.02	0.0290851	0.0260047	0.0672715	0.899893	0.8045854	2.0501593	2.0501593
208	39:41.6	574343	6.35303E+12	5.99395E+13	5399.38	0.0290851	0.0266287	0.0672386	0.899893	0.823892	2.0491574	2.0491574
209	44:44.4	574344	6.35303E+12	5.95861E+13	5399.01	0.0290851	0.0265012	0.0676328	0.899893	0.8199471	2.0611697	2.0611697
210	49:47.3	574344	6.35303E+12	5.95861E+13	5394.85	0.0290851	0.0271631	0.0675807	0.899893	0.8404263	2.0595816	2.0595816
211	54:50.3	574344	6.35303E+12	5.95861E+13	5396.47	0.0290851	0.0265076	0.067601	0.899893	0.8201451	2.0602	2.0602
212	59:53.1	574344	6.35303E+12	5.95861E+13	5398.44	0.0290851	0.0266994	0.0676256	0.899893	0.8260794	2.0609521	2.0609521
213	04:56.9	574346	6.35303E+12	5.84022E+13	5394.51	0.02818	0.02274043	0.0689463	0.8718892	0.7035889	2.1012014	2.1012014
214	10:00.6	574347	6.35303E+12	5.86008E+13	5393.4	0.02818	0.0269004	0.0686985	0.8718892	0.8322984	2.0936499	2.0936499
215	15:04.1	574347	6.35303E+12	5.86008E+13	5397.48	0.02818	0.026967	0.0687505	0.8718892	0.834359	2.0952337	2.0952337
216	20:07.3	574348	6.35303E+12	5.87322E+13	5396.99	0.02818	0.0271281	0.0685905	0.8718892	0.8393434	2.0903567	2.0903567
217	25:10.3	574348	6.35303E+12	5.87322E+13	5396.15	0.02818	0.0268342	0.0685798	0.8718892	0.8302501	2.0900313	2.0900313
218	30:14.9	574349	6.35303E+12	5.84595E+13	5395.98	0.02818	0.0226576	0.0688975	0.8718892	0.70102614	2.0997122	2.0997122
219	35:17.9	574350	6.35303E+12	5.91267E+13	5396.77	0.02818	0.0272473	0.06813	0.8718892	0.8430315	2.0763241	2.0763241
220	40:20.9	574350	6.35303E+12	5.91267E+13	5395.88	0.02818	0.024981	0.0681188	0.8718892	0.7729121	2.059816	2.059816
221	45:24.0	574351	6.35303E+12	5.92508E+13	5395.8	0.02818	0.0257123	0.0679751	0.8718892	0.7955386	2.0716025	2.0716025
222	50:27.1	574351	6.35303E+12	5.92508E+13	5393.06	0.02818	0.0249229	0.0679406	0.8718892	0.7711145	2.0705505	2.0705505
223	55:30.2	574351	6.35303E+12	5.92508E+13	5392.02	0.02818	0.0251479	0.0679275	0.8718892	0.778076	2.0701512	2.0701512
224	00:33.0	574351	6.35303E+12	5.92508E+13	5390.01	0.0294406	0.0252162	0.0679022	0.9108922	0.7801892	2.0693795	2.0693795
225	05:35.8	574351	6.35303E+12	5.92508E+13	5365.12	0.0294406	0.0226972	0.0675886	0.9108922	0.7022514	2.0598235	2.0598235
226	10:38.7	574351	6.35303E+12	5.92508E+13	5371.99	0.0294406	0.0227666	0.0676752	0.9108922	0.7043986	2.0624611	2.0624611
227	15:41.6	574351	6.35303E+12	5.92508E+13	5379.7	0.0294406	0.0243866	0.0677723	0.9108922	0.7545212	2.0654212	2.0654212
228	20:44.5	574353	6.35303E+12	5.95341E+13	5378.3	0.0294406	0.0230678	0.0674322	0.9108922	0.7137177	2.0550568	2.0550568
229	25:47.5	574353	6.35303E+12	5.95341E+13	5381.03	0.0294406	0.0249763	0.0674664	0.9108922	0.7727667	2.0560999	2.0560999
230	30:50.5	574353	6.35303E+12	5.95341E+13	5392.25	0.0294406	0.0253991	0.0676071	0.9108922	0.7858482	2.0603871	2.0603871
231	35:53.6	574353	6.35303E+12	5.95341E+13	5394.16	0.0294406	0.0253424	0.067631	0.9108922	0.7840939	2.0611169	2.0611169
232	40:56.7	574353	6.35303E+12	5.95341E+13	5399.99	0.0294406	0.0250223	0.0677041	0.9108922	0.77419	2.0633446	2.0633446
233	45:59.6	574356	6.35303E+12	6.01278E+13	5396.88	0.0294406	0.0234576	0.0669971	0.9108922	0.7257781	2.0417971	2.0417971
234	51:02.7	574356	6.35303E+12	6.01278E+13	5394.77	0.0294406	0.0249344	0.0669709	0.9108922	0.7714703	2.0409989	2.0409989
235	56:05.8	574356	6.35303E+12	6.01278E+13	5402.4	0.0294406	0.022081	0.0670656	0.9108922	0.6831861	2.0438855	2.0438855
236	01:08.8	574357	6.35303E+12	5.98782E+13	5407.57	0.0358454	0.0219246	0.0674096	1.1090567	0.6783471	2.0543694	2.0543694
237	06:12.1	574357	6.35303E+12	5.98782E+13	5412.01	0.0358454	0.0217059	0.067465	1.1090567	0.6715805	2.0560562	2.0560562
238	11:15.1	574359	6.35303E+12	5.99023E+13	5413.47	0.0358454	0.0219481	0.067456	1.1090567	0.6790742	2.0557835	2.0557835
239	16:18.2	574360	6.35303E+12	6.0023E+13	5411.11	0.0358454	0.0220348	0.0672909	1.1090567	0.6817567	2.0507521	2.0507521
240	21:21.3	574360	6.35303E+12	6.0023E+13	5411.03	0.0358454	0.0228761	0.0672899	1.1090567	0.7077865	2.0507217	2.0507217
241	26:24.5	574360	6.35303E+12	6.0023E+13	5403.73	0.0358454	0.0226145	0.0671992	1.1090567	0.6996926	2.0479551	2.0479551
242	31:27.6	574361	6.35303E+12	5.95038E+13	5407.93	0.0358454	0.0246405	0.0678382	1.1090567	0.7623771	2.0674304	2.0674304
243	36:30.8	574361	6.35303E+12	5.95038E+13	5411.14	0.0358454	0.0360477	0.0678785	1.1090567	1.1153158	2.0686576	2.0686576
244	41:34.3	574362	6.35303E+12	5.87448E+13	5422.09	0.0358454	0.0239492	0.0688946	1.1090567	0.7409882	2.0996263	2.0996263
245	46:37.4	574362	6.35303E+12	5.87448E+13	5435.74	0.0358454	0.0225539	0.0690681	1.1090567	0.6978177	2.1049121	2.1049121
246	51:40.5	574362	6.35303E+12	5.87448E+13	5435.55	0.0358454	0.0241469	0.0690657	1.1090567	0.7471051	2.1048385	2.1048385
247	56:43.6	574363	6.35303E+12	5.80502E+13	5427.15	0.0358454	0.0327231	0.0697841	1.1090567	1.0124527	2.1267343	2.1267343
248	01:47.3	574363	6.35303E+12	5.80502E+13	5428.1	0.0269617	0.0483081	0.0697964	0.834195	1.4946526	2.1271066	2.1271066
249	06:50.1	574364	6.35303E+12	5.78645E+13	5441.31	0.0269617	0.0234265	0.0701907	0.834195	1.3936159	2.1391255	2.1391255
250	11:53.2	574364	6.35303E+12	5.78645E+13	5428.95	0.0269617	0.0243957	0.0700313	0.834195	0.754803	2.1342664	2.1342664
251	16:56.5	574367	6.35303E+12	5.84533E+13	5433.74	0.0269617	0.0247673	0.069387	0.834195	0.7663003	2.1146321	2.1146321
252	21:59.8	574367	6.35303E+12	5.84533E+13	5439.23	0.0269617	0.0232371	0.0694571	0.834195	0.7189559	2.1167686	2.1167686
253	27:03.6	574368	6.35303E+12	5.81378E+13	5433.99	0.0269617	0.0215394	0.0697668	0.834195	0.666429	2.1262058	2.1262058
254	32:06.7	574368	6.35303E+12	5.81378E+13	5443.02	0.0269617	0.0212281	0.0698827	0.834195	0.6567974	2.1297391	2.1297391
255	37:09.8	574369	6.35303E+12	5.7527E+13	5441.82	0.0269617	0.0207728	0.0706092	0.834195	0.6412253	2.1518775	2.1518775
256	42:13.0	574370	6.35303E+12	5.73316E+13	5444.99	0.0269617	0.0200896	0.0708911	0.834195	0.6215722	2.1604697	2.1604697
257	47:16.2	574370	6.35303E+12	5.73316E+13	5471.73	0.0269617	0.0200075	0.0712392	0.834195	0.6190321	2.1710796	2.1710796
25												

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
284	04:07.9	574388	6.35303E+12	5.41076E+13	5492.55	0.0171198	0.0184116	0.0757711	0.5296866	0.5696549	2.3091936	2.3091936
285	09:11.2	574388	6.35303E+12	5.41076E+13	5499.47	0.0171198	0.018402	0.0758666	0.5296866	0.5693579	2.3121029	2.3121029
286	14:14.7	574390	6.35303E+12	5.36713E+13	5497.38	0.0171198	0.0183991	0.0764543	0.5296866	0.5692682	2.3300147	2.3300147
287	19:17.4	574393	6.35303E+12	5.4543E+13	5505.67	0.0171198	0.0188975	0.0753459	0.5296866	0.5846887	2.296235	2.296235
288	24:20.4	574393	6.35303E+12	5.4543E+13	5525.72	0.0171198	0.0194457	0.0756203	0.5296866	0.60165	2.3045972	2.3045972
289	29:23.6	574393	6.35303E+12	5.4543E+13	5532.69	0.0171198	0.0193998	0.0757157	0.5296866	0.6002298	2.3075042	2.3075042
290	34:27.1	574393	6.35303E+12	5.4543E+13	5548.77	0.0171198	0.0195967	0.0759358	0.5296866	0.6063219	2.3142106	2.3142106
291	39:30.2	574394	6.35303E+12	5.38779E+13	5540.68	0.0171198	0.0195476	0.076761	0.5296866	0.6048027	2.3393597	2.3393597
292	44:33.4	574395	6.35303E+12	5.53825E+13	5512.91	0.0171198	0.0198241	0.0743014	0.5296866	0.6133577	2.2644017	2.2644017
293	49:36.3	574395	6.35303E+12	5.53825E+13	5524.53	0.0171198	0.0195437	0.074458	0.5296866	0.6046821	2.2691746	2.2691746
294	54:39.3	574395	6.35303E+12	5.53825E+13	5525.3	0.0171198	0.0195692	0.0744684	0.5296866	0.605471	2.2694909	2.2694909
295	59:42.3	574395	6.35303E+12	5.53825E+13	5518.69	0.0171198	0.0192178	0.0743793	0.5296866	0.5945987	2.2667759	2.2667759
296	04:45.3	574395	6.35303E+12	5.53825E+13	5533.7	0.0177576	0.0191891	0.0745816	0.5494201	0.5937108	2.2729411	2.2729411
297	09:48.1	574395	6.35303E+12	5.53825E+13	5530.29	0.0177576	0.0191378	0.0745356	0.5494201	0.5921235	2.2715405	2.2715405
298	14:51.2	574396	6.35303E+12	5.44713E+13	5534.64	0.0177576	0.0189612	0.0758421	0.5494201	0.5866595	2.3113551	2.3113551
299	19:54.1	574396	6.35303E+12	5.44713E+13	5544.31	0.0177576	0.0189168	0.0759746	0.5494201	0.5852858	2.3153934	2.3153934
300	24:57.0	574396	6.35303E+12	5.44713E+13	5549.76	0.0177576	0.018934	0.0760493	0.5494201	0.585818	2.3176694	2.3176694
301	30:00.1	574397	6.35303E+12	5.38389E+13	5535.92	0.0177576	0.019027	0.0767506	0.5494201	0.5886954	2.3390422	2.3390422
302	35:03.1	574397	6.35303E+12	5.38389E+13	5548.11	0.0177576	0.0186692	0.0769196	0.5494201	0.577625	2.3441927	2.3441927
303	40:06.4	574397	6.35303E+12	5.38389E+13	5576.84	0.0177576	0.0189082	0.0773179	0.5494201	0.5850197	2.3563317	2.3563317
304	45:09.5	574397	6.35303E+12	5.38389E+13	5588.49	0.0177576	0.0188137	0.0774794	0.5494201	0.5820959	2.3612541	2.3612541
305	50:12.8	574397	6.35303E+12	5.38389E+13	5580.14	0.0177576	0.0194016	0.0773636	0.5494201	0.6002855	2.3577261	2.3577261
306	55:16.0	574397	6.35303E+12	5.38389E+13	5584.03	0.0177576	0.0194473	0.0774176	0.5494201	0.6016995	2.3593697	2.3593697
307	00:19.0	574398	6.35303E+12	5.24135E+13	5587.36	0.0179634	0.0194473	0.0795704	0.5557876	0.6016995	2.4249801	2.4249801
308	05:22.0	574399	6.35303E+12	5.22154E+13	5575.01	0.0179634	0.0198978	0.0796957	0.5557876	0.6156379	2.4287994	2.4287994
309	10:25.0	574400	6.35303E+12	5.19602E+13	5558.15	0.0179634	0.0197059	0.079845	0.5557876	0.6097005	2.4333473	2.4333473
310	15:28.5	574400	6.35303E+12	5.19602E+13	5577.5	0.0179634	0.0197937	0.0801229	0.5557876	0.6124171	2.4418187	2.4418187
311	20:31.4	574400	6.35303E+12	5.19602E+13	5579.19	0.0179634	0.019798	0.0801472	0.5557876	0.6125501	2.4425586	2.4425586
312	25:34.2	574401	6.35303E+12	5.14241E+13	5571.72	0.0179634	0.0199501	0.0808744	0.5557876	0.6172561	2.4647197	2.4647197
313	30:37.1	574401	6.35303E+12	5.14241E+13	5570.01	0.0179634	0.0199163	0.0808496	0.5557876	0.6162103	2.4639632	2.4639632
314	35:40.1	574402	6.35303E+12	5.15991E+13	5590.6	0.0179634	0.0206372	0.0808732	0.5557876	0.638515	2.4646821	2.4646821
315	40:43.0	574403	6.35303E+12	5.16659E+13	5618.11	0.0179634	0.0201332	0.0811661	0.5557876	0.6229212	2.4736097	2.4736097
316	45:45.9	574404	6.35303E+12	5.22163E+13	5610.56	0.0179634	0.0202943	0.0802027	0.5557876	0.6835976	2.444248	2.444248
317	50:48.6	574406	6.35303E+12	5.44332E+13	5659.03	0.0179634	0.0201857	0.0776008	0.5557876	0.6245456	2.3649536	2.3649536
318	55:51.5	574406	6.35303E+12	5.44332E+13	5657.45	0.0179634	0.0201063	0.0775791	0.5557876	0.6220889	2.3642933	2.3642933
319	00:54.3	574407	6.35303E+12	5.44179E+13	5681.44	0.0187756	0.0190108	0.0779301	0.5809171	0.5881942	2.3749899	2.3749899
320	05:57.2	574408	6.35303E+12	5.43366E+13	5664.77	0.0187756	0.0196478	0.0778177	0.5809171	0.6079029	2.3715634	2.3715634
321	11:00.1	574409	6.35303E+12	5.45039E+13	5675.15	0.0187756	0.019932	0.0777209	0.5809171	0.6166961	2.368615	2.368615
322	16:03.5	574409	6.35303E+12	5.45039E+13	5712.4	0.0187756	0.0201859	0.0782311	0.5809171	0.6245517	2.3841619	2.3841619
323	21:07.1	574409	6.35303E+12	5.45039E+13	5686.74	0.0187756	0.0225242	0.0778796	0.5809171	0.6968987	2.3734522	2.3734522
324	26:10.3	574410	6.35303E+12	5.4739E+13	5682.68	0.0187756	0.0206965	0.0774898	0.5809171	0.6403497	2.3615721	2.3615721
325	31:13.5	574410	6.35303E+12	5.4739E+13	5696.73	0.0187756	0.0215966	0.0776814	0.5809171	0.6681988	2.3674109	2.3674109
326	36:16.9	574410	6.35303E+12	5.4739E+13	5721.55	0.0187756	0.0216764	0.0780199	0.5809171	0.6706678	2.3777254	2.3777254
327	41:19.9	574410	6.35303E+12	5.4739E+13	5723.36	0.0187756	0.0214227	0.0780445	0.5809171	0.6628183	2.3784776	2.3784776
328	46:23.0	574410	6.35303E+12	5.4739E+13	5753.44	0.0187756	0.0229152	0.0784547	0.5809171	0.7101101	2.3909781	2.3909781
329	51:26.1	574410	6.35303E+12	5.4739E+13	5751.61	0.0187756	0.0234893	0.0784298	0.5809171	0.7267589	2.3902176	2.3902176
330	56:29.0	574412	6.35303E+12	5.33495E+13	5783.15	0.0187756	0.0444265	0.0809138	0.5809171	1.3745559	2.465921	2.465921
331	01:31.9	574412	6.35303E+12	5.33495E+13	5778.34	0.0236295	0.0250626	0.0808465	0.7310967	0.7754368	2.46387	2.46387
332	06:34.9	574412	6.35303E+12	5.33495E+13	5717.03	0.0236295	0.0224619	0.0799887	0.7310967	0.6949712	2.4377276	2.4377276
333	11:38.0	574412	6.35303E+12	5.33495E+13	5720.45	0.0236295	0.0232839	0.0800365	0.7310967	0.7204039	2.4391858	2.4391858
334	16:40.9	574413	6.35303E+12	5.25253E+13	5714.68	0.0236295	0.0234838	0.0812103	0.7310967	0.7265888	2.4749582	2.4749582
335	21:43.7	574413	6.35303E+12	5.25253E+13	5731.49	0.0236295	0.0221746	0.0814492	0.7310967	0.6860821	2.4822384	2.4822384
336	26:46.8	574413	6.35303E+12	5.25253E+13	5723.09	0.0236295	0.0254915	0.0813299	0.7310967	0.788707	2.4786004	2.4786004
337	31:50.0	574414	6.35303E+12	5.19701E+13	5734.99	0.0236295	0.0253002	0.0823697	0.7310967	0.7827882	2.5102894	2.5102894
338	36:53.0	574414	6.35303E+12	5.19701E+13	5744.23	0.0236295	0.0255777	0.0825504	0.7310967	0.791374	2.5143339	2.5143339
339	41:56.0	574416	6.35303E+12	5.19215E+13	5727.36	0.0236295	0.0254854	0.0823371	0.7310967	0.7885183	2.5092973	2.5092973
340	46:59.2	574418	6.35303E+12	5.19586E+13	5734.35	0.0236295	0.0224637	0.0823788	0.7310967	0.6950269	2.510567	2.510567
341	52:02.0	574420	6.35303E+12	5.25895E+13	5710.56	0.0236295	0.036317	0.0810529	0.7310967	1.123648	2.4701587	2.4701587
342	57:05.3	574421	6.35303E+12	5.25734E+13	5677.64	0.0236295	0.023519	0.0806102	0.7310967	0.7276779	2.4566683	2.4566683
343	02:08.1	574422	6.35303E+12	5.2543E+13	5686.55	0.0268916	0.0219254	0.0807834	0.8320261	0.6783719	2.4619458	2.4619458
344	07:11.0	574423	6.35303E+12	5.29406E+13	5686.98	0.0268916	0.0218438	0.0801828	0.8320261	0.6758472	2.4436417	2.4436417
345	12:13.8	574424	6.35303E+12	5.28202E+13	5690.22	0.0268916	0.0219166	0.0804113	0.8320261	0.6780996	2.4506078	2.4506078
346	17:16.6	574424	6.35303E+12	5.28202E+13	5676.93	0.0268916	0.0283	0.0802235	0.8320261	0.875602	2.4448842	2.4448842
347	22:19.5	574426	6.35303E+12	5.30049E+13	5683.45	0.0268916	0.0487112	0.0800358	0.8320261	1.5071245	2.4391635	2.4391635
348	27:23.6	574426	6.35303E+12	5.30049E+13	5679.11	0.0268916	0.0237194	0.0799747	0.8320261	7.3395682	2.4373009	2.395682
349	32:27.6	574427	6.35303E+12	5.28466E+13	5693.6	0.0268916	0.0229584	0.0804189	0.8320261	7.1033537	2.4508373	7.1033537
350	37:30.4	574427	6.35303E+12	5.28466E+13	5702.84	0.0268916	0.0489678	0.0805494	0.8320261	1.5150637	2.4548147	2.4548147
351	42:33.4	574428	6.35303E+12	5.2354E+13	5719.96	0.0268916	0.0279098	0.0815514	0.8320261	0.8635292	2.4853515	2.4853515
352	47:36.4	574428	6.35303E+1									

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	58:56.5	574443	6.35303E+12	5.28228E+13	5739.99	0.027516	0.0256215	0.0811107	0.851345	0.7927292	2.4719226	2.4719226
379	03:59.3	574443	6.35303E+12	5.28228E+13	5735.16	0.0300224	0.0258636	0.0810425	0.9288931	0.8002198	2.4698426	2.4698426
380	09:02.7	574443	6.35303E+12	5.28228E+13	5751.51	0.0300224	0.0247336	0.0812735	0.9288931	0.7652576	2.4768837	2.4768837
381	14:05.7	574443	6.35303E+12	5.28228E+13	5760.39	0.0300224	0.0249539	0.081399	0.9288931	0.7720737	2.4807079	2.4807079
382	19:09.0	574443	6.35303E+12	5.28228E+13	5759.7	0.0300224	0.0252528	0.0813893	0.9288931	0.7813216	2.4804107	2.4804107
383	24:12.2	574444	6.35303E+12	5.21447E+13	5765.94	0.0300224	0.0251079	0.0825368	0.9288931	0.7768384	2.5153845	2.5153845
384	29:15.1	574445	6.35303E+12	5.19166E+13	5760.01	0.0300224	0.028066	0.0828144	0.9288931	0.868362	2.5238421	2.5238421
385	34:18.0	574446	6.35303E+12	5.17083E+13	5752.55	0.0300224	0.0345945	0.0830402	0.9288931	1.0703538	2.5307244	2.5307244
386	39:20.9	574446	6.35303E+12	5.17083E+13	5767.39	0.0300224	0.0278833	0.0832544	0.9288931	0.8627093	2.537253	2.537253
387	44:23.9	574446	6.35303E+12	5.17083E+13	5759.99	0.0300224	0.0266611	0.0831476	0.9288931	0.8248944	2.5339975	2.5339975
388	49:26.8	574448	6.35303E+12	5.19511E+13	5756.94	0.0300224	0.0267976	0.0827151	0.9288931	0.8291177	2.5208172	2.5208172
389	54:30.1	574448	6.35303E+12	5.19511E+13	5735.1	0.0300224	0.0267019	0.0824013	0.9288931	0.8261568	2.511254	2.511254
390	59:33.0	574448	6.35303E+12	5.19511E+13	5719.45	0.0300224	0.0300539	0.0821764	0.9288931	0.9298677	2.5044012	2.5044012
391	04:36.4	574448	6.35303E+12	5.19511E+13	5702.8	0.0292181	0.0270051	0.0819372	0.904008	0.8355378	2.4971106	2.4971106
392	09:39.4	574449	6.35303E+12	5.17328E+13	5699.65	0.0292181	0.0251577	0.0822376	0.904008	0.7783792	2.5062642	2.5062642
393	14:42.6	574450	6.35303E+12	5.16724E+13	5715.01	0.0292181	0.0257413	0.0825556	0.904008	0.7964358	2.5159564	2.5159564
394	19:45.6	574450	6.35303E+12	5.16724E+13	5715.9	0.0292181	0.0260754	0.0825685	0.904008	0.8067729	2.5163482	2.5163482
395	24:48.6	574450	6.35303E+12	5.16724E+13	5710.01	0.0292181	0.0257615	0.0824834	0.904008	0.7970608	2.5137552	2.5137552
396	29:51.6	574450	6.35303E+12	5.16724E+13	5720.01	0.0292181	0.0258404	0.0826278	0.904008	0.7995502	2.5181576	2.5181576
397	34:54.4	574450	6.35303E+12	5.16724E+13	5725.31	0.0292181	0.0255507	0.0827044	0.904008	0.7905387	2.5204908	2.5204908
398	39:57.2	574452	6.35303E+12	5.09821E+13	5720.01	0.0292181	0.0261083	0.0837466	0.904008	0.8077908	2.5522533	2.5522533
399	45:00.3	574454	6.35303E+12	5.11925E+13	5714.05	0.0292181	0.026223	0.0833155	0.904008	0.8113396	2.5391139	2.5391139
400	50:03.4	574454	6.35303E+12	5.11925E+13	5704.48	0.0292181	0.025018	0.0831759	0.904008	0.7740569	2.5348614	2.5348614
401	55:06.5	574454	6.35303E+12	5.11925E+13	5709.99	0.0292181	0.0242779	0.0832563	0.904008	0.7511582	2.5373098	2.5373098
402	00:09.5	574454	6.35303E+12	5.11925E+13	5711.52	0.0316117	0.0239833	0.0832786	0.978066	0.7420433	2.5379897	2.5379897
403	05:12.8	574454	6.35303E+12	5.11925E+13	5715.02	0.0316117	0.0251484	0.0833296	0.978066	0.7780915	2.539545	2.539545
404	10:15.8	574454	6.35303E+12	5.11925E+13	5705.02	0.0316117	0.024145	0.0831838	0.978066	0.7470463	2.5351013	2.5351013

Bearbox v Lancium
Trial Exhibit
TX920-10

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Appx13441

BB10000921

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
2	22:13.7	574204	6.35303E+12	5.38327E+13	5320.02	0.0059375	0.0061512	0.0737658	0.1837063	0.1903181	2.2480786	2.2480786
3	27:16.8	574204	6.35303E+12	5.38327E+13	5320.01	0.0059375	0.0062341	0.0737656	0.1837063	0.1928831	2.2480744	2.2480744
4	32:19.8	574204	6.35303E+12	5.38327E+13	5321.94	0.0059375	0.0048202	0.0737924	0.1837063	0.149137	2.24889	2.24889
5	37:22.9	574205	6.35303E+12	5.30839E+13	5321.95	0.0059375	0.0036136	0.0748335	0.1837063	0.1118048	2.2806172	2.2806172
6	42:25.9	574205	6.35303E+12	5.30839E+13	5325.19	0.0059375	0.0022848	0.074879	0.1837063	0.0706917	2.2820056	2.2820056
7	47:28.9	574206	6.35303E+12	5.44532E+13	5328.27	0.0059375	0.0052204	0.0730384	0.1837063	0.1615192	2.225912	2.225912
8	52:31.9	574206	6.35303E+12	5.44532E+13	5328.65	0.0059375	0.0074321	0.0730436	0.1837063	0.2299492	2.2260707	2.2260707
9	57:34.9	574207	6.35303E+12	5.39845E+13	5327.68	0.0059375	0.0009997	0.0736643	0.1837063	0.0309307	2.2449863	2.2449863
10	02:37.8	574207	6.35303E+12	5.39845E+13	5327.22	0.0009735	0.0025864	0.073658	0.0301201	0.0800232	2.2447925	2.2447925
11	07:40.8	574208	6.35303E+12	5.34662E+13	5325.01	0.0009735	-0.034704	0.0743412	0.0301201	-0.1073742	2.2656139	2.2656139
12	12:43.8	574208	6.35303E+12	5.34662E+13	5325.01	0.0009735	-0.0085232	0.0743412	0.0301201	-0.2637078	2.2656139	2.2656139
13	17:46.9	574209	6.35303E+12	5.33477E+13	5321.01	0.0009735	0.0007819	0.0744503	0.0301201	0.024192	2.2689395	2.2689395
14	22:49.7	574209	6.35303E+12	5.33477E+13	5327.95	0.0009735	0.0010434	0.0745474	0.0301201	0.0322282	2.2718988	2.2718988
15	27:53.3	574211	6.35303E+12	5.42133E+13	5325.19	0.0009735	-0.0190352	0.0733191	0.0301201	-0.5889491	2.2344662	2.2344662
16	32:56.5	574212	6.35303E+12	5.54528E+13	5323.43	0.0009735	-0.0316021	0.0716566	0.0301201	-0.977769	2.1838	2.1838
17	37:59.5	574214	6.35303E+12	5.533E+13	5323.35	0.0009735	-0.0308754	0.0718145	0.0301201	-0.9552849	2.1886119	2.1886119
18	43:03.0	574215	6.35303E+12	5.58834E+13	5323.1	0.0009735	-0.0299834	0.0711001	0.0301201	-0.9276864	2.1668382	2.1668382
19	48:06.0	574215	6.35303E+12	5.58834E+13	5326.55	0.0009735	-0.026648	0.0711461	0.0301201	-0.8244891	2.1682425	2.1682425
20	53:09.5	574215	6.35303E+12	5.58834E+13	5328.3	0.0009735	-0.030956	0.0711695	0.0301201	-0.9577786	2.1689549	2.1689549
21	58:12.8	574216	6.35303E+12	5.54406E+13	5326.69	0.0009735	-0.031885	0.0717163	0.0301201	-0.9865219	2.1856184	2.1856184
22	03:15.8	574216	6.35303E+12	5.54406E+13	5330.35	0.0003732	-0.0310131	0.0717656	0.0115468	-0.9595453	2.1871201	2.1871201
23	08:18.9	574218	6.35303E+12	5.58377E+13	5330.78	0.0003732	-0.0030349	0.071261	0.0115468	-0.0938998	2.1717421	2.1717421
24	13:22.6	574220	6.35303E+12	5.59914E+13	5329.45	0.0003732	-0.0190837	0.0710476	0.0115468	-0.5904497	2.1652392	2.1652392
25	18:25.7	574220	6.35303E+12	5.59914E+13	5348.41	0.0003732	-0.0174614	0.0713003	0.0115468	-0.5402557	2.1729422	2.1729422
26	23:28.8	574223	6.35303E+12	5.60912E+13	5338.35	0.0003732	-0.0275277	0.0710397	0.0115468	-0.851707	2.164998	2.164998
27	28:31.6	574226	6.35303E+12	5.60441E+13	5328.39	0.0003732	-0.0300566	0.0709666	0.0115468	-0.9299605	2.1627725	2.1627725
28	33:34.4	574226	6.35303E+12	5.60441E+13	5333.1	0.0003732	-0.0260876	0.0710294	0.0115468	-0.8071503	2.1646843	2.1646843
29	38:37.6	574227	6.35303E+12	5.56725E+13	5332.07	0.0003732	-0.0192161	0.0714897	0.0115468	-0.5945461	2.1787132	2.1787132
30	43:40.6	574227	6.35303E+12	5.56725E+13	5339.02	0.0003732	-0.0197771	0.0715829	0.0115468	-0.6119035	2.181553	2.181553
31	48:43.8	574228	6.35303E+12	5.52451E+13	5343.15	0.0003732	-0.0194532	0.0721925	0.0115468	-0.601882	2.2001303	2.2001303
32	53:47.1	574229	6.35303E+12	5.5892E+13	5338.61	0.0003732	-0.0291334	0.0712963	0.0115468	-0.9013874	2.1728179	2.1728179
33	58:50.2	574229	6.35303E+12	5.5892E+13	5336.51	0.0003732	-0.0235618	0.0712682	0.0115468	-0.7290021	2.1719632	2.1719632
34	03:53.5	574229	6.35303E+12	5.5892E+13	5340.15	0.0002799	-0.0187222	0.0713168	0.0086601	-0.5792649	2.1734447	2.1734447
35	08:56.9	574229	6.35303E+12	5.5892E+13	5341.69	0.0002799	-0.0308233	0.0713374	0.0086601	-0.9536729	2.1740715	2.1740715
36	14:00.0	574230	6.35303E+12	5.53347E+13	5346.1	0.0002799	-0.0302971	0.0721153	0.0086601	-0.9373923	2.1977795	2.1977795
37	19:03.3	574230	6.35303E+12	5.53347E+13	5347.19	0.0002799	-0.0301938	0.072123	0.0086601	-0.9341962	2.1982276	2.1982276
38	24:06.5	574231	6.35303E+12	5.49411E+13	5341.77	0.0002799	-0.0280347	0.0725732	0.0086601	-0.8673936	2.2117345	2.2117345
39	29:09.8	574231	6.35303E+12	5.49411E+13	5342.48	0.0002799	-0.0281744	0.0725829	0.0086601	-0.8717159	2.2120284	2.2120284
40	34:12.9	574232	6.35303E+12	5.47061E+13	5349.99	0.0002799	-0.0268456	0.0729971	0.0086601	-0.8306029	2.2246529	2.2246529
41	39:15.9	574232	6.35303E+12	5.47061E+13	5346.06	0.0002799	-0.0273812	0.0729435	0.0086601	-0.8471743	2.2230187	2.2230187
42	44:19.1	574232	6.35303E+12	5.47061E+13	5350.69	0.0002799	-0.0274119	0.0730067	0.0086601	-0.8481242	2.224944	2.224944
43	49:22.3	574232	6.35303E+12	5.47061E+13	5361.36	0.0002799	-0.0288527	0.0731523	0.0086601	-0.8927025	2.2293808	2.2293808
44	54:25.5	574232	6.35303E+12	5.47061E+13	5358.36	0.0002799	-0.0281218	0.0731131	0.0086601	-0.8700885	2.2281334	2.2281334
45	59:28.2	574232	6.35303E+12	5.47061E+13	5366.19	0.0002799	-0.0262745	0.0732182	0.0086601	-0.812933	2.2313893	2.2313893
46	04:31.6	574233	6.35303E+12	5.35475E+13	5377.4	0.0028119	-0.026271	0.0749586	0.0870002	-0.8128247	2.2844298	2.2844298
47	09:34.5	574233	6.35303E+12	5.35475E+13	5358.81	0.0028119	-0.0028349	0.0746994	0.0870002	-0.0877118	2.2765324	2.2765324
48	14:37.5	574233	6.35303E+12	5.35475E+13	5359.15	0.0028119	-0.0008362	0.0747042	0.0870002	-0.025872	2.2766768	2.2766768
49	19:40.5	574233	6.35303E+12	5.35475E+13	5359.66	0.0028119	-0.018256	0.0747113	0.0870002	-0.5648406	2.2768935	2.2768935
50	24:43.4	574234	6.35303E+12	5.31615E+13	5358.18	0.0028119	-0.0019335	0.075233	0.0870002	-0.0598225	2.2927926	2.2927926
51	29:46.4	574234	6.35303E+12	5.31615E+13	5351.99	0.0028119	-0.0146955	0.0751461	0.0870002	-0.4535649	2.2901439	2.2901439
52	34:49.2	574234	6.35303E+12	5.31615E+13	5344.84	0.0028119	-0.0033057	0.0750457	0.0870002	-0.1022784	2.2870844	2.2870844
53	39:52.4	574236	6.35303E+12	5.29706E+13	5349.94	0.0028119	-0.0160658	0.075388	0.0870002	-0.4970759	2.2975179	2.2975179
54	44:55.4	574237	6.35303E+12	5.26741E+13	5348.56	0.0028119	-0.0313865	0.0757299	0.0870002	-0.9710983	2.3098563	2.3098563
55	49:58.5	574238	6.35303E+12	5.2719E+13	5353.94	0.0028119	-0.0300483	0.0758044	0.0870002	-0.9296944	2.3102083	2.3102083
56	55:01.6	574238	6.35303E+12	5.2719E+13	5351.76	0.0028119	-0.0054625	0.0757736	0.0870002	-0.1690098	2.3092677	2.3092677
57	00:04.5	574239	6.35303E+12	5.28168E+13	5350.18	0.0122894	-0.0015936	0.0756109	0.380234	-0.049306	2.3043114	2.3043114
58	10:10.2	574240	6.35303E+12	5.25658E+13	5348.27	0.0122894	-0.0303162	0.0759448	0.380234	-0.9379832	2.314487	2.314487
59	15:13.1	574243	6.35303E+12	5.35108E+13	5354.34	0.0122894	4.40E-06	0.0746884	0.380234	0.0001361	2.2761958	2.2761958
60	20:15.8	574245	6.35303E+12	5.38531E+13	5358.41	0.0122894	0.0009337	0.07427	0.380234	0.0288887	2.2634449	2.2634449
61	25:18.5	574245	6.35303E+12	5.38531E+13	5356.02	0.0122894	-0.0033181	0.0742369	0.380234	-0.102662	2.2624353	2.2624353
62	30:21.5	574246	6.35303E+12	5.41667E+13	5359.34	0.0122894	-0.0013696	0.0738528	0.380234	-0.0423754	2.2507317	2.2507317
63	35:24.4	574246	6.35303E+12	5.41667E+13	5361.98	0.0122894	0.0048181	0.0738892	0.380234	0.149072	2.2518404	2.2518404
64	40:27.4	574246	6.35303E+12	5.41667E+13	5366.6	0.0122894	-0.0154488	0.0739529	0.380234	-0.4779859	2.2537807	2.2537807
65	45:30.2	574248	6.35303E+12	5.41479E+13	5365.93	0.0122894	-0.001393	0.0739693	0.380234	-0.0430994	2.2542821	2.2542821
66	50:33.1	574251	6.35303E+12	5.52479E+13	5359.19	0.0122894	0.0017926	0.0724055	0.380234	0.055463	2.2066234	2.2066234
67	55:36.2	574251	6.35303E+12	5.52479E+13	5356.1	0.0122894	0.0017688	0.0723638	0.380234	0.0547267	2.2053511	2.2053511
68	00:39.1	574252	6.35303E+12	5.50584E+13	5358.27	0.0171137	0.005096	0.0726423	0.5294979	0.1576702	2.2138386	2.2138386
69	05:43.7	574252	6.35303E+12	5.50584E+13	5360.85	0.0171137	0.1588863	0.0726772	0.5294979	4.9159421	2.2149045	4.9159421
70	10:47.0	574253	6.35303E+12	5.55506E+13								

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
96	37:15.7	574273	6.35303E+12	5.53104E+13	5353.7	0.0191744	0.0084743	0.0722496	0.5932559	0.2621948	2.2018709	2.2018709
97	42:19.1	574273	6.35303E+12	5.53104E+13	5354.2	0.0191744	0.0105116	0.0722563	0.5932559	0.3252289	2.2020766	2.2020766
98	47:22.1	574274	6.35303E+12	5.53441E+13	5354.14	0.0191744	0.0118583	0.0722116	0.5932559	0.3668958	2.2007128	2.2007128
99	52:25.1	574274	6.35303E+12	5.53441E+13	5355.15	0.0191744	0.0169972	0.0722252	0.5932559	0.5258934	2.2011279	2.2011279
100	57:28.6	574274	6.35303E+12	5.53441E+13	5366.51	0.0191744	0.0145957	0.0723784	0.5932559	0.451591	2.2057972	2.2057972
101	02:31.9	574274	6.35303E+12	5.53441E+13	5367.34	0.0216519	0.009775	0.0723896	0.6699098	0.3024385	2.2061384	2.2061384
102	07:34.9	574274	6.35303E+12	5.53441E+13	5369.11	0.0216519	0.0089501	0.0724135	0.6699098	0.2769161	2.2068659	2.2068659
103	12:38.4	574274	6.35303E+12	5.53441E+13	5361.12	0.0216519	0.0155345	0.0723057	0.6699098	0.4806374	2.2035818	2.2035818
104	17:41.3	574274	6.35303E+12	5.53441E+13	5366.11	0.0216519	0.0159714	0.072373	0.6699098	0.4941551	2.2056328	2.2056328
105	22:44.6	574275	6.35303E+12	5.36343E+13	5369.98	0.0216519	0.015976	0.0747339	0.6699098	0.4942974	2.2775843	2.2775843
106	27:47.5	574275	6.35303E+12	5.36343E+13	5368.01	0.0216519	0.0157924	0.0747065	0.6699098	0.4886169	2.2767487	2.2767487
107	32:50.5	574277	6.35303E+12	5.50501E+13	5373.94	0.0216519	0.0199778	0.0728657	0.6699098	0.6181131	2.2206488	2.2206488
108	37:53.4	574279	6.35303E+12	5.54528E+13	5377.71	0.0216519	0.019191	0.0723873	0.6699098	0.5937695	2.2060669	2.2060669
109	42:56.1	574281	6.35303E+12	5.67946E+13	5384.52	0.0216519	0.0172445	0.0707666	0.6699098	0.5335448	2.1566766	2.1566766
110	47:59.0	574281	6.35303E+12	5.67946E+13	5380.73	0.0216519	0.0171053	0.0707168	0.6699098	0.529238	2.1551586	2.1551586
111	53:02.0	574282	6.35303E+12	5.6096E+13	5375.54	0.0216519	0.0134277	0.0715284	0.6699098	0.415453	2.1798939	2.1798939
112	58:05.2	574282	6.35303E+12	5.6096E+13	5378.27	0.0216519	0.018	0.0715648	0.6699098	0.55692	2.1810009	2.1810009
113	03:08.4	574283	6.35303E+12	5.56063E+13	5389.1	0.0235997	0.0178977	0.0723403	0.7301747	0.5537548	2.2046367	2.2046367
114	08:11.8	574283	6.35303E+12	5.56063E+13	5401.6	0.0235997	0.0199519	0.0725081	0.7301747	0.6173118	2.2097504	2.2097504
115	13:14.8	574283	6.35303E+12	5.56063E+13	5411.61	0.0235997	0.0198174	0.0726425	0.7301747	0.6131504	2.2138454	2.2138454
116	18:18.7	574284	6.35303E+12	5.64188E+13	5399.02	0.0235997	0.0211285	0.0714298	0.7301747	0.6537158	2.1768876	2.1768876
117	23:21.6	574284	6.35303E+12	5.64188E+13	5401.6	0.0235997	0.0206955	0.0714639	0.7301747	0.6403188	2.1779279	2.1779279
118	28:24.6	574284	6.35303E+12	5.64188E+13	5405.99	0.0235997	0.0201906	0.071522	0.7301747	0.6246972	2.1796979	2.1796979
119	38:30.0	574285	6.35303E+12	5.57835E+13	5401.12	0.0235997	0.0196938	0.0722714	0.7301747	0.6093262	2.2025372	2.2025372
120	43:33.2	574285	6.35303E+12	5.57835E+13	5404.01	0.0235997	0.0205017	0.0723101	0.7301747	0.6343226	2.2037157	2.2037157
121	48:36.5	574285	6.35303E+12	5.57835E+13	5404.26	0.0235997	0.0202344	0.0723135	0.7301747	0.6260523	2.2038176	2.2038176
122	53:39.7	574285	6.35303E+12	5.57835E+13	5400.01	0.0235997	0.0204794	0.0722566	0.7301747	0.6363263	2.2020845	2.2020845
123	58:42.8	574285	6.35303E+12	5.57835E+13	5405.56	0.0235997	0.0204578	0.0723309	0.7301747	0.6329643	2.2043478	2.2043478
124	03:45.8	574285	6.35303E+12	5.57835E+13	5405.7	0.0246624	0.0205258	0.0723327	0.7630547	0.6350683	2.2044049	2.2044049
125	08:49.5	574286	6.35303E+12	5.36818E+13	5416.95	0.0246624	0.0206883	0.0753209	0.7630547	0.640096	2.2954736	2.2954736
126	13:52.4	574287	6.35303E+12	5.50908E+13	5405.74	0.0246624	0.0206454	0.0732427	0.7630547	0.6387687	2.232137	2.232137
127	18:56.1	574287	6.35303E+12	5.50908E+13	5394.62	0.0246624	0.0206499	0.073092	0.7630547	0.6389079	2.2275453	2.2275453
128	23:59.2	574288	6.35303E+12	5.6446E+13	5372.85	0.0246624	0.0206922	0.0710493	0.7630547	0.6402167	2.1652907	2.1652907
129	29:02.2	574288	6.35303E+12	5.6446E+13	5385.99	0.0246624	0.0206955	0.071223	0.7630547	0.6403188	2.1705862	2.1705862
130	34:05.7	574289	6.35303E+12	5.61643E+13	5382.78	0.0246624	0.0217427	0.0715377	0.7630547	0.6727191	2.1801747	2.1801747
131	39:08.7	574289	6.35303E+12	5.61643E+13	5380.01	0.0246624	0.0218238	0.0715009	0.7630547	0.6752284	2.1790528	2.1790528
132	44:11.8	574289	6.35303E+12	5.61643E+13	5375.01	0.0246624	0.0212482	0.0714344	0.7630547	0.6574193	2.1770277	2.1770277
133	54:17.2	574292	6.35303E+12	5.59818E+13	5380.19	0.0246624	0.0219149	0.0717363	0.7630547	0.678047	2.1862275	2.1862275
134	59:20.2	574293	6.35303E+12	5.63654E+13	5377.35	0.0246624	0.021873	0.0712105	0.7630547	0.6767506	2.1702049	2.1702049
135	04:23.7	574294	6.35303E+12	5.66874E+13	5388.44	0.0258801	0.0213278	0.070952	0.8007303	0.6598821	2.1623271	2.1623271
136	09:26.5	574295	6.35303E+12	5.71185E+13	5388.44	0.0258801	0.0212527	0.0704165	0.8007303	0.6660454	2.1460054	2.1460054
137	14:29.9	574298	6.35303E+12	5.77593E+13	5389.19	0.0258801	0.0216842	0.0696449	0.8007303	0.6709091	2.122492	2.122492
138	19:32.9	574298	6.35303E+12	5.77593E+13	5388.39	0.0258801	0.0204613	0.0696346	0.8007303	0.7444566	2.122177	2.122177
139	24:35.8	574298	6.35303E+12	5.77593E+13	5391.23	0.0258801	0.0222895	0.0696713	0.8007303	0.6896317	2.1232955	2.1232955
140	29:38.9	574298	6.35303E+12	5.77593E+13	5399.68	0.0258801	0.0257402	0.0697805	0.8007303	0.7964018	2.1266234	2.1266234
141	34:42.6	574300	6.35303E+12	5.74492E+13	5391.27	0.0258801	0.0264737	0.0700479	0.8007303	0.8190963	2.1347724	2.1347724
142	39:47.4	574301	6.35303E+12	5.7613E+13	5390.99	0.0258801	0.0248568	0.0698452	0.8007303	2.6165525	2.1285942	2.1615525
143	44:51.4	574302	6.35303E+12	5.77583E+13	5394.15	0.0258801	0.022087	0.0697103	0.8007303	0.8337395	2.124483	2.124483
144	49:55.5	574302	6.35303E+12	5.77583E+13	5395.41	0.0258801	0.0156937	0.0697265	0.8007303	0.8557143	2.1249792	2.1249792
145	55:00.3	574304	6.35303E+12	5.7411E+13	5395.02	0.0258801	0.0185686	0.0701433	0.8007303	5.5249125	2.1376815	5.5249125
146	05:07.6	574305	6.35303E+12	5.8471E+13	5393.61	0.0282381	0.02199419	0.0688537	0.8736868	6.8050024	2.0983778	6.8050024
147	10:10.7	574305	6.35303E+12	5.8471E+13	5393.59	0.0282381	0.0379328	0.0688534	0.8736868	1.1736408	2.09837	2.09837
148	15:13.9	574307	6.35303E+12	5.89967E+13	5393.1	0.0282381	0.0282657	0.0688373	0.8736868	0.8745408	2.0794831	2.0794831
149	20:16.9	574309	6.35303E+12	6.00748E+13	5397.01	0.0282381	0.0260977	0.0670578	0.8736868	0.8074628	2.0436461	2.0436461
150	25:20.0	574309	6.35303E+12	6.00748E+13	5396.19	0.0282381	0.0259319	0.0670476	0.8736868	0.802333	2.0433356	2.0433356
151	30:22.8	574310	6.35303E+12	6.02983E+13	5397.48	0.0282381	0.030206	0.0668151	0.8736868	0.9345736	2.0362495	2.0362495
152	35:25.7	574311	6.35303E+12	6.01255E+13	5402.84	0.0282381	0.0302009	0.0670736	0.8736868	0.9344158	2.044127	2.044127
153	40:29.7	574312	6.35303E+12	5.99055E+13	5397.41	0.0282381	0.0302509	0.0672522	0.8736868	0.9359628	2.0495721	2.0495721
154	45:32.5	574312	6.35303E+12	5.99055E+13	5395.01	0.0282381	0.0260271	0.0672223	0.8736868	0.8052785	2.0486608	2.0486608
155	55:37.6	574315	6.35303E+12	5.97623E+13	5391.82	0.0282381	0.0262949	0.0673436	0.8736868	0.8135642	2.0523565	2.0523565
156	00:42.0	574315	6.35303E+12	5.97623E+13	5387.9	0.0299687	0.2138963	0.0672946	0.9272316	6.6179515	2.0508644	6.6179515
157	05:45.0	574317	6.35303E+12	6.04051E+13	5388.49	0.0299687	0.0275245	0.0665859	0.9272316	0.851608	2.0292641	2.0292641
158	10:49.5	574319	6.35303E+12	6.0775E+13	5387.98	0.0299687	0.0273972	0.0661742	0.9272316	7.0356694	2.0167195	7.0356694
159	15:52.2	574320	6.35303E+12	6.21737E+13	5393.73	0.0299687	0.0493605	0.0647546	0.9272316	1.5272139	1.9734558	1.9734558
160	20:54.9	574320	6.35303E+12	6.21737E+13	5399.05	0.0299687	0.0375331	0.0648185	0.9272316	1.1612741	1.9754023	1.9754023
161	25:57.6	574320	6.35303E+12	6.21737E+13	5405.74	0.0299687	0.0307695	0.0648988	0.9272316	0.9520083	1.97785	1.97785
162	31:00.3	574321	6.35303E+12	6.17749E+13	5405.41	0.0299687	0.0283888	0.0653138	0.9272316	0.8783495	1.9904973	1.9904973
163	36:03.1	574321	6.35303E+12	6.17749E+13	5401.85	0.0299687	0.0282614	0.0652708	0.9272316	0.8744077	1.	

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
190	52:22.9	574333	6.35303E+12	5.9734E+13	5406.27	0.0303255	0.0270923	0.0675561	0.938271	0.8382358	0.2588333	0.2588333
191	57:25.6	574333	6.35303E+12	5.9734E+13	5401.15	0.0303255	0.0273697	0.0674921	0.938271	0.8468185	0.2568835	0.2568835
192	02:28.6	574334	6.35303E+12	5.92562E+13	5400.02	0.0291501	0.028349	0.0680221	0.9019041	0.8771181	0.2730351	0.2730351
193	07:32.0	574335	6.35303E+12	5.9018E+13	5400.05	0.0291501	0.0271441	0.0682991	0.9019041	0.8398385	0.2814126	0.2814126
194	12:35.2	574337	6.35303E+12	6.04407E+13	5403.81	0.0291501	0.0271795	0.0667358	0.9019041	0.8409337	0.2383321	0.2383321
195	17:38.0	574338	6.35303E+12	6.00814E+13	5403.9	0.0291501	0.0269433	0.067136	0.9019041	0.8336257	0.2460298	0.2460298
196	22:41.3	574340	6.35303E+12	6.01388E+13	5404.53	0.0291501	0.0265047	0.0670798	0.9019041	0.8200554	0.2443159	0.2443159
197	27:44.1	574342	6.35303E+12	6.0482E+13	5405.01	0.0291501	0.0269789	0.0667051	0.9019041	0.8347272	0.2328944	0.2328944
198	32:47.4	574342	6.35303E+12	6.0482E+13	5405.02	0.0291501	0.0259921	0.0667051	0.9019041	0.8041956	0.2328982	0.2328982
199	37:50.1	574343	6.35303E+12	5.99395E+13	5399.97	0.0291501	0.0266251	0.067246	0.9019041	0.8237806	0.2493813	0.2493813
200	42:52.9	574344	6.35303E+12	5.95861E+13	5399.01	0.0291501	0.0264856	0.0676328	0.9019041	0.8194645	0.2611697	0.2611697
201	47:55.6	574344	6.35303E+12	5.95861E+13	5399.01	0.0291501	0.027138	0.0676328	0.9019041	0.8396497	0.2611697	0.2611697
202	52:58.5	574344	6.35303E+12	5.95861E+13	5394.86	0.0291501	0.0264887	0.0675808	0.9019041	0.8195604	0.2595854	0.2595854
203	58:01.6	574344	6.35303E+12	5.95861E+13	5398.35	0.0291501	0.0266866	0.0676245	0.9019041	0.8256834	0.2609177	0.2609177
204	03:05.6	574346	6.35303E+12	5.84022E+13	5395.14	0.0282198	0.227266	0.0689544	0.8731206	7.03161	2.1014468	7.03161
205	08:09.0	574347	6.35303E+12	5.86008E+13	5392.22	0.0282198	0.026838	0.0686835	0.8731206	0.8317848	0.2931918	0.2931918
206	13:12.1	574347	6.35303E+12	5.86008E+13	5397.01	0.0282198	0.0269587	0.0687445	0.8731206	0.8341022	0.2905012	0.2905012
207	18:15.1	574348	6.35303E+12	5.87322E+13	5398.6	0.0282198	0.02711	0.0686109	0.8731206	0.8387834	0.2909802	0.2909802
208	23:18.2	574348	6.35303E+12	5.87322E+13	5396.18	0.0282198	0.0268066	0.0685802	0.8731206	0.8293962	0.2900429	0.2900429
209	28:22.4	574349	6.35303E+12	5.84595E+13	5396.23	0.0282198	0.2263651	0.0689007	0.8731206	7.0037486	0.2998095	7.0037486
210	33:25.3	574349	6.35303E+12	5.84595E+13	5395.06	0.0282198	0.0366701	0.0688857	0.8731206	1.1345729	0.2993542	0.2993542
211	38:28.1	574350	6.35303E+12	5.91267E+13	5395.03	0.0282198	0.0272366	0.0681081	0.8731206	0.8427004	0.2756546	0.2756546
212	43:31.1	574351	6.35303E+12	5.92508E+13	5395.02	0.0282198	0.0249648	0.0679653	0.8731206	0.7724109	0.271303	0.271303
213	48:33.9	574351	6.35303E+12	5.92508E+13	5394.15	0.0282198	0.025678	0.0679543	0.8731206	0.7944773	0.270969	0.270969
214	53:36.6	574351	6.35303E+12	5.92508E+13	5390.52	0.0282198	0.0248895	0.0679086	0.8731206	0.7700811	0.2695753	0.2695753
215	58:39.4	574351	6.35303E+12	5.92508E+13	5391.4	0.0282198	0.025117	0.0679197	0.8731206	0.776956	0.2699132	0.2699132
216	03:42.2	574351	6.35303E+12	5.92508E+13	5383.02	0.0294796	0.0251798	0.0678141	0.9120988	0.779063	0.2666958	0.2666958
217	08:45.1	574351	6.35303E+12	5.92508E+13	5371.99	0.0294796	0.022656	0.0676752	0.9120988	0.7012737	0.2624611	0.2624611
218	13:48.0	574351	6.35303E+12	5.92508E+13	5376.84	0.0294796	0.0227334	0.0677362	0.9120988	0.7033714	0.2643232	0.2643232
219	18:50.8	574353	6.35303E+12	5.95341E+13	5372.72	0.0294796	0.024306	0.0673622	0.9120988	0.7532838	0.2529247	0.2529247
220	23:53.6	574353	6.35303E+12	5.95341E+13	5379.06	0.0294796	0.023035	0.0674417	0.9120988	0.7127029	0.2553472	0.2553472
221	28:56.9	574353	6.35303E+12	5.95341E+13	5386.27	0.0294796	0.0249424	0.0675321	0.9120988	0.7717179	0.2581021	0.2581021
222	33:59.8	574353	6.35303E+12	5.95341E+13	5393.51	0.0294796	0.0253684	0.0676229	0.9120988	0.7848983	0.2608686	0.2608686
223	39:02.6	574353	6.35303E+12	5.95341E+13	5397.98	0.0294796	0.0253102	0.0676789	0.9120988	0.7830976	0.2625766	0.2625766
224	44:05.8	574354	6.35303E+12	5.92005E+13	5401.73	0.0294796	0.0249924	0.0681077	0.9120988	0.7732649	0.2756429	0.2756429
225	49:09.4	574356	6.35303E+12	6.01278E+13	5395.44	0.0294796	0.0234267	0.0669792	0.9120988	0.7248221	0.2412523	0.2412523
226	54:12.7	574356	6.35303E+12	6.01278E+13	5400.19	0.0294796	0.0248989	0.0670382	0.9120988	0.770372	0.2430494	0.2430494
227	59:15.5	574357	6.35303E+12	5.98782E+13	5407.34	0.0294796	0.0220481	0.0674068	0.9120988	0.6821682	0.254282	0.254282
228	04:18.3	574357	6.35303E+12	5.98782E+13	5412.65	0.0358902	0.0218857	0.067473	1.1104428	0.6771436	0.2562993	0.2562993
229	09:22.0	574358	6.35303E+12	5.94067E+13	5412.99	0.0358902	0.0216716	0.0680127	1.1104428	0.6705193	0.2727494	0.2727494
230	14:25.2	574359	6.35303E+12	5.99023E+13	5410.59	0.0358902	0.0219037	0.0674202	1.1104428	0.6777005	0.2546898	0.2546898
231	19:28.2	574360	6.35303E+12	6.0023E+13	5412.47	0.0358902	0.0219939	0.0673079	1.1104428	0.6804913	0.2512675	0.2512675
232	24:32.0	574360	6.35303E+12	6.0023E+13	5404.27	0.0358902	0.0228282	0.0672059	1.1104428	0.7063045	0.2481598	0.2481598
233	29:35.3	574361	6.35303E+12	5.95038E+13	5406.99	0.0358902	0.0225739	0.0678264	1.1104428	0.6984365	0.2670711	0.2670711
234	34:38.6	574361	6.35303E+12	5.95038E+13	5410.01	0.0358902	0.0245993	0.0678643	1.1104428	0.7611023	0.2682256	0.2682256
235	39:41.7	574361	6.35303E+12	5.95038E+13	5424.76	0.0358902	0.0359936	0.0680493	1.1104428	1.113642	0.2738645	0.2738645
236	44:44.7	574362	6.35303E+12	5.87448E+13	5432.99	0.0358902	0.0239225	0.0690331	1.1104428	0.7401622	0.2103847	0.2103847
237	49:48.5	574362	6.35303E+12	5.87448E+13	5431.52	0.0358902	0.0225293	0.0690145	1.1104428	0.6970565	0.2103278	0.2103278
238	54:51.9	574363	6.35303E+12	5.80502E+13	5426.35	0.0358902	0.0241253	0.0697738	1.1104428	0.7464368	0.2162408	0.2162408
239	59:55.2	574363	6.35303E+12	5.80502E+13	5426.04	0.0358902	0.0262684	0.0697699	1.1104428	1.0111935	0.2126294	0.2126294
240	04:57.9	574364	6.35303E+12	5.78645E+13	5431.65	0.0269835	0.0482413	0.0700661	0.8348695	1.4925858	0.21353278	0.21353278
241	10:00.7	574364	6.35303E+12	5.78645E+13	5442.45	0.0269835	0.043395	0.0702054	0.8348695	1.3426413	0.21395736	0.21395736
242	15:04.3	574366	6.35303E+12	5.7531E+13	5432.6	0.0269835	0.0243861	0.0704846	0.8348695	1.7545059	0.21480807	0.21480807
243	20:07.3	574367	6.35303E+12	5.84533E+13	5443.24	0.0269835	0.0247503	0.0695083	0.8348695	0.7657743	0.21183292	0.21183292
244	25:11.1	574368	6.35303E+12	5.81378E+13	5430.99	0.0269835	0.0232327	0.0697283	0.8348695	0.7185722	0.2125032	0.2125032
245	30:14.0	574368	6.35303E+12	5.81378E+13	5447.49	0.0269835	0.0215208	0.0699401	0.8348695	0.6658536	0.2134881	0.2134881
246	35:16.8	574369	6.35303E+12	5.7527E+13	5441.28	0.0269835	0.0212082	0.0706021	0.8348695	0.6561817	0.2151664	0.2151664
247	40:20.2	574369	6.35303E+12	5.7527E+13	5444.99	0.0269835	0.0200685	0.0706503	0.8348695	0.6209194	0.2153131	0.2153131
248	45:23.2	574370	6.35303E+12	5.73316E+13	5445.99	0.0269835	0.0200685	0.0709041	0.8348695	0.6209194	0.21608665	0.21608665
249	50:26.3	574370	6.35303E+12	5.73316E+13	5466.65	0.0269835	0.0196295	0.0711731	0.8348695	0.6073367	0.2169064	0.2169064
250	55:29.5	574372	6.35303E+12	5.7029E+13	5473.18	0.0269835	0.0196295	0.0716362	0.8348695	0.6073367	0.21831762	0.21831762
251	00:32.6	574373	6.35303E+12	5.75391E+13	5470.2	0.0280848	0.0195841	0.0709624	0.6437005	0.6059321	0.21626439	0.21626439
252	05:35.5	574373	6.35303E+12	5.75391E+13	5471.01	0.0280848	0.0193404	0.0709729	0.6437005	0.598392	0.21629641	0.21629641
253	10:38.5	574374	6.35303E+12	5.70787E+13	5461.19	0.0280848	0.0197241	0.071417	0.6437005	0.6102637	0.21764965	0.21764965
254	15:41.4	574374	6.35303E+12	5.70787E+13	5460.95	0.0280848	0.019458	0.0714138	0.6437005	0.6020305	0.21764008	0.21764008
255	20:44.2	574376	6.35303E+12	5.68162E+13	5461.87	0.0280848	0.0214581	0.0717558	0.6437005	0.6639136	0.2186823	0.2186823
256	25:47.0	574376	6.35303E+12	5.68162E+13	5458.6	0.0280848	0.019573	0.0717129	0.6437005	0.6055886	0.21855137	0.21855137
257	30:49.8	574376	6.35303E+12	5.68162E+13	5452.56	0.0280848	0.0197916	0.0716335	0.6437005	0.6123521	0.21830955	0.21830955
258	35:52											

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
284	57:45.2	574395	6.35303E+12	5.53825E+13	5519.38	0.0170398	0.0192475	0.0743886	0.5272114	0.5955177	2.2670593	2.2670593
285	02:48.0	574395	6.35303E+12	5.53825E+13	5528.44	0.0176772	0.0192253	0.0745107	0.5469326	0.5948308	2.2707806	2.2707806
286	07:50.8	574395	6.35303E+12	5.53825E+13	5533.27	0.0176772	0.0191698	0.0745758	0.5469326	0.5931136	2.2727645	2.2727645
287	12:53.8	574396	6.35303E+12	5.44713E+13	5531.02	0.0176772	0.0189901	0.0757925	0.5469326	0.5875537	2.3098433	2.3098433
288	17:56.7	574396	6.35303E+12	5.44713E+13	5545.02	0.0176772	0.0189449	0.0759843	0.5469326	0.5861552	2.3156899	2.3156899
289	22:59.6	574396	6.35303E+12	5.44713E+13	5548.95	0.0176772	0.0189618	0.0760382	0.5469326	0.5866781	2.3173312	2.3173312
290	28:02.4	574397	6.35303E+12	5.38389E+13	5554.01	0.0176772	0.0190515	0.0770014	0.5469326	0.5894534	2.3466856	2.3466856
291	33:05.6	574397	6.35303E+12	5.38389E+13	5549.85	0.0176772	0.0186935	0.0769437	0.5469326	0.5783769	2.3449279	2.3449279
292	38:08.5	574397	6.35303E+12	5.38389E+13	5562.7	0.0176772	0.0189393	0.0771218	0.5469326	0.5859819	2.3503573	2.3503573
293	43:13.3	574397	6.35303E+12	5.38389E+13	5576.66	0.0176772	0.0188386	0.0773154	0.5469326	0.5828662	2.3562557	2.3562557
294	48:16.3	574397	6.35303E+12	5.38389E+13	5591.65	0.0176772	0.0189326	0.0775232	0.5469326	0.5857746	2.3625893	2.3625893
295	53:19.2	574397	6.35303E+12	5.38389E+13	5576.07	0.0176772	0.0194225	0.0773072	0.5469326	0.6009321	2.3560064	2.3560064
296	58:22.3	574398	6.35303E+12	5.24135E+13	5579.93	0.0176772	0.0194733	0.0794646	0.5469326	0.6025039	2.4217554	2.4217554
297	03:25.2	574399	6.35303E+12	5.22154E+13	5582.01	0.0178805	0.0197824	0.0797958	0.5532227	0.6120675	2.431849	2.431849
298	13:30.3	574400	6.35303E+12	5.19602E+13	5575.84	0.0178805	0.0197535	0.0800991	0.5532227	0.6111733	2.441092	2.441092
299	18:33.2	574400	6.35303E+12	5.19602E+13	5579.19	0.0178805	0.0198435	0.0801472	0.5532227	0.6139579	2.4425586	2.4425586
300	23:36.6	574401	6.35303E+12	5.14241E+13	5571.19	0.0178805	0.0198432	0.0808667	0.5532227	0.6139486	2.4644852	2.4644852
301	28:40.0	574401	6.35303E+12	5.14241E+13	5570.27	0.0178805	0.0199995	0.0808533	0.5532227	0.6187845	2.4640783	2.4640783
302	38:45.6	574403	6.35303E+12	5.16659E+13	5613.91	0.0178805	0.0206986	0.0811054	0.5532227	0.6404147	2.4717605	2.4717605
303	43:48.7	574404	6.35303E+12	5.22163E+13	5628.79	0.0178805	0.0201896	0.0804633	0.5532227	0.6246662	2.45219	2.45219
304	48:51.6	574405	6.35303E+12	5.26766E+13	5629.74	0.0178805	0.0221578	0.0797736	0.5532227	0.6855623	2.4311707	2.4311707
305	53:54.6	574406	6.35303E+12	5.44332E+13	5687.49	0.0178805	0.020244	0.077991	0.5532227	0.6263494	2.3768473	2.3768473
306	58:57.4	574407	6.35303E+12	5.44179E+13	5665.95	0.0178805	0.0201642	0.0777176	0.5532227	0.6238803	2.3685147	2.3685147
307	04:00.3	574407	6.35303E+12	5.44179E+13	5670.39	0.0186939	0.019061	0.0777785	0.5783893	0.5897473	2.3703707	2.3703707
308	09:03.7	574408	6.35303E+12	5.43366E+13	5670.17	0.0186939	0.0196968	0.0778918	0.5783893	0.609419	2.3738241	2.3738241
309	14:06.8	574409	6.35303E+12	5.45039E+13	5709.88	0.0186939	0.0199734	0.0781965	0.5783893	0.617977	2.3831101	2.3831101
310	19:09.8	574409	6.35303E+12	5.45039E+13	5681.29	0.0186939	0.0202197	0.077805	0.5783893	0.6255975	2.3711776	2.3711776
311	24:13.3	574409	6.35303E+12	5.45039E+13	5681.4	0.0186939	0.022567	0.0778065	0.5783893	0.698223	2.3712235	2.3712235
312	34:18.6	574410	6.35303E+12	5.4739E+13	5723.04	0.0186939	0.021648	0.0780402	0.5783893	0.6697891	2.3783446	2.3783446
313	39:21.6	574410	6.35303E+12	5.4739E+13	5712.44	0.0186939	0.0217271	0.0778956	0.5783893	0.6722365	2.3739395	2.3739395
314	44:26.0	574410	6.35303E+12	5.4739E+13	5766.56	0.0186939	0.0214755	0.0786336	0.5783893	0.664452	2.3964304	2.3964304
315	49:30.2	574410	6.35303E+12	5.4739E+13	5752.64	0.0186939	0.0230133	0.0784438	0.5783893	0.7120315	2.3906456	2.3906456
316	54:33.3	574411	6.35303E+12	5.33843E+13	5785.23	0.0186939	0.0235469	0.0808902	0.5783893	0.7285411	2.4652002	2.4652002
317	59:36.0	574412	6.35303E+12	5.33495E+13	5778.03	0.0186939	0.0445382	0.0808422	0.5783893	1.3780119	2.4637378	2.4637378
318	04:38.7	574412	6.35303E+12	5.33495E+13	5707.59	0.0235949	0.0251205	0.0798566	0.7300262	0.7772283	2.4337024	2.4337024
319	09:41.6	574412	6.35303E+12	5.33495E+13	5698.98	0.0235949	0.0252324	0.0797362	0.7300262	0.696874	2.4300311	2.4300311
320	14:44.9	574412	6.35303E+12	5.33495E+13	5716.84	0.0235949	0.023342	0.079986	0.7300262	0.7222015	2.4376465	2.4376465
321	19:47.8	574413	6.35303E+12	5.25253E+13	5727.04	0.0235949	0.0235409	0.081386	0.7300262	0.7283554	2.4803111	2.4803111
322	24:51.0	574413	6.35303E+12	5.25253E+13	5727.44	0.0235949	0.0222209	0.0813917	0.7300262	0.6875146	2.4804844	2.4804844
323	29:53.8	574413	6.35303E+12	5.25253E+13	5735.97	0.0235949	0.0255473	0.0815129	0.7300262	0.7904335	2.4841786	2.4841786
324	34:56.6	574414	6.35303E+12	5.19701E+13	5739.52	0.0235949	0.0253504	0.0824347	0.7300262	0.7843414	2.5122723	2.5122723
325	39:59.3	574415	6.35303E+12	5.18073E+13	5733.01	0.0235949	0.0256234	0.0826	0.7300262	0.792788	2.5173089	2.5173089
326	45:02.1	574418	6.35303E+12	5.19586E+13	5730.9	0.0235949	0.0255253	0.0823292	0.7300262	0.7897528	2.5090566	2.5090566
327	50:05.4	574420	6.35303E+12	5.25895E+13	5722.12	0.0235949	0.0224989	0.0812169	0.7300262	0.696116	2.4751591	2.4751591
328	55:08.2	574421	6.35303E+12	5.25734E+13	5697.57	0.0235949	0.0363746	0.0808932	0.7300262	1.1254301	2.4652918	2.4652918
329	00:11.2	574421	6.35303E+12	5.25734E+13	5676.99	0.0269152	0.023551	0.080601	0.8327563	0.7286679	2.456387	2.456387
330	05:14.1	574423	6.35303E+12	5.29406E+13	5669.12	0.0269152	0.0218688	0.0799309	0.8327563	0.6766207	2.4359674	2.4359674
331	15:19.2	574424	6.35303E+12	5.28202E+13	5679.07	0.0269152	0.0832729	0.0802538	0.8327563	0.8764652	2.4458059	2.4458059
332	20:22.3	574425	6.35303E+12	5.23532E+13	5686.98	0.0269152	0.0487423	0.0810825	0.8327563	1.5080868	2.471061	2.471061
333	25:27.1	574426	6.35303E+12	5.30049E+13	5674.69	0.0269152	0.2374762	0.0799125	0.8327563	7.3475136	2.435404	7.3475136
334	30:31.1	574427	6.35303E+12	5.28466E+13	5692.52	0.0269152	0.2299546	0.0804036	0.8327563	7.1147953	2.4503724	7.1147953
335	35:34.0	574427	6.35303E+12	5.28466E+13	5694.01	0.0269152	0.0490713	0.0804247	0.8327563	1.518266	2.4510138	2.4510138
336	40:36.8	574428	6.35303E+12	5.2354E+13	5713.35	0.0269152	0.0279617	0.0814571	0.8327563	0.865135	2.4824794	2.4824794
337	45:39.8	574428	6.35303E+12	5.2354E+13	5716.19	0.0269152	0.0282458	0.0814976	0.8327563	0.8739251	2.4837134	2.4837134
338	50:42.7	574428	6.35303E+12	5.2354E+13	5717.38	0.0269152	0.0284795	0.0815146	0.8327563	0.8811557	2.4842305	2.4842305
339	55:45.7	574429	6.35303E+12	5.15634E+13	5710.01	0.0269152	0.0240423	0.0826578	0.8327563	0.7436688	2.5190709	2.5190709
340	00:48.6	574429	6.35303E+12	5.15634E+13	5698.38	0.0275406	0.0225554	0.0824894	0.8521062	0.6978641	2.5139401	2.5139401
341	05:51.3	574429	6.35303E+12	5.15634E+13	5709.41	0.0275406	0.0225554	0.0826491	0.8521062	0.6978641	2.5188062	2.5188062
342	10:54.1	574430	6.35303E+12	5.12815E+13	5715.13	0.0275406	0.023496	0.0831866	0.8521062	0.7269662	2.5351866	2.5351866
343	15:58.2	574430	6.35303E+12	5.12815E+13	5712.23	0.0275406	0.023838	0.0831444	0.8521062	0.7375477	2.5339002	2.5339002
344	21:01.2	574430	6.35303E+12	5.12815E+13	5713.4	0.0275406	0.0238314	0.0831614	0.8521062	0.7373435	2.5344192	2.5344192
345	26:05.1	574430	6.35303E+12	5.12815E+13	5723.95	0.0275406	0.0239138	0.083315	0.8521062	0.739893	2.5390991	2.5390991
346	31:08.2	574430	6.35303E+12	5.12815E+13	5735.36	0.0275406	0.0247866	0.0834811	0.8521062	0.7668974	2.5441605	2.5441605
347	36:11.1	574430	6.35303E+12	5.12815E+13	5739.01	0.0275406	0.0244687	0.0835342	0.8521062	0.7570616	2.5457796	2.5457796
348	41:13.9	574430	6.35303E+12	5.12815E+13	5741.24	0.0275406	0.024823	0.0835666	0.8521062	0.7680236	2.5467688	2.5467688
349	46:16.8	574430	6.35303E+12	5.12815E+13	5724.65	0.0275406	0.0479102	0.0833252	0.8521062	1.4823416	2.5394096	2.5394096
350	51:19.5	574432	6.35303E+12	4.99455E+13	5726.23	0.0275406	0.0287101	0.0855777	0.8521062	0.8882905	2.6080579	2.6080579
351	56:22.3	574432	6.35303E+12	4.99455E+13	5715.44	0.0275406	0.0476762	0.0854165	0.8521062	1.4751016	2.6031435	2.6031435
352	01:25.2	574432	6.3530									

	A	B	C	D	E	F	G	H	I	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	12:45.4	574449	6.35303E+12	5.17328E+13	5715.31	0.0291971	0.02575	0.0824635	0.9033583	0.796705	2.5131502	2.5131502
379	17:48.3	574450	6.35303E+12	5.16724E+13	5717.01	0.0291971	0.0260891	0.0825845	0.9033583	0.8071968	2.5168369	2.5168369
380	22:51.1	574450	6.35303E+12	5.16724E+13	5712.98	0.0291971	0.0257711	0.0825263	0.9033583	0.7973578	2.5150627	2.5150627
381	27:54.3	574450	6.35303E+12	5.16724E+13	5722.03	0.0291971	0.0258512	0.082657	0.9033583	0.7998361	2.5190469	2.5190469
382	32:57.1	574450	6.35303E+12	5.16724E+13	5727.15	0.0291971	0.0255716	0.082731	0.9033583	0.7911853	2.5213009	2.5213009
383	38:00.1	574451	6.35303E+12	5.07309E+13	5728.02	0.0291971	0.0261372	0.0842791	0.9033583	0.808685	2.5684819	2.5684819
384	43:03.0	574453	6.35303E+12	5.08262E+13	5712.01	0.0291971	0.0262532	0.083886	0.9033583	0.812274	2.5565013	2.5565013
385	48:06.4	574454	6.35303E+12	5.11925E+13	5714.36	0.0291971	0.0250628	0.08332	0.9033583	0.775443	2.5392517	2.5392517
386	53:09.2	574454	6.35303E+12	5.11925E+13	5702.85	0.0291971	0.0243144	0.0831522	0.9033583	0.7522875	2.5341371	2.5341371
387	58:12.0	574454	6.35303E+12	5.11925E+13	5709.89	0.0291971	0.0240068	0.0832548	0.9033583	0.7427704	2.5372654	2.5372654
388	03:14.8	574454	6.35303E+12	5.11925E+13	5717.23	0.0316183	0.0251727	0.0833618	0.9782702	0.7788433	2.540527	2.540527
389	08:17.8	574454	6.35303E+12	5.11925E+13	5706.69	0.0316183	0.0241637	0.0832082	0.9782702	0.7476249	2.5358434	2.5358434
390	13:20.8	574454	6.35303E+12	5.11925E+13	5717.65	0.0316183	0.0244866	0.0833368	0.9782702	0.7576154	2.5407136	2.5407136

Bearbox v Lancium
Trial Exhibit
TX920-12

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Appx13447

BB10000923

Let's talk 9AM CST Friday morning. My cell is (985) 377-6257.

Cool, a 1.5MW pilot is ~\$1MM and should take about 6 weeks to fully deploy.

-A

On Nov 28, 2018, at 8:22 AM, Ben Hakes <ben@paretoadvisors.com> wrote:

See my responses below.

A few clarifying questions:

Explain load "behind" substation? I mean that the wind farm sits behind the substation which connects it with the rest of the grid. The mining operation would tap into one of the cable runs that sits between the turbines and the substation. "Behind the meter", one could also say.

Explain \$3/MW - traditionally, this is measured in \$/kWh (and accounts for 85%+ of monthly opex).

I mean \$3/MWh or \$0.03/kWh. These guys typically think about selling power by the MWh, so they'll say \$3 or \$0.03 pretty interchangeably (as opposed to retail power which is almost always kWh).

1: Yes to digging more, let's get the NDAs done ASAP.

I will make some calls today about this.

2: 20MW site is ~65 BearBoxes, that'd take 10-12 months (and a load of capital).

Roughly how many acres would you need here? A high-level estimate is fine.

3: 5MW site is ~18 BearBoxes, that'd take 3-4 months ("").

Roughly how many acres would you need here?

If they have enough wind generation a ~\$0/kWh cost of marginal production, it makes sense for them to mine Bitcoin and be the producer of a provably scarce, highly sought after digital commodity.

Exactly. They think this is part of a larger trend as "wires charges" continue to increase as a result of labor/employee benefit/grid maintenance cost but the cost of fuel remains relatively flat.

Let's hop on a call this week - let me know when you're avail.

Mornings before 10am central is best. I can talk as early as 8:00a.

-A

P.S. - We're gonna need more than \$10MM.

Let's assume we right-size the BearBoxes/MW to the funding raise. It is possible that they would want to do a 1-2 MW pilot first, then scale.

On Tue, Nov 27, 2018 at 11:20 PM austin@bearbox.io Austin Storms <austin@bearbox.io> wrote:

For sure, Ben. I'm glad to hear you're enjoying the classes at Lambda, I've only heard great things and I'm currently lobbying my brother to apply.

It's great that you're keeping your ear to the ground for opportunities and you love Bitcoin - same here!

The deal sounds good, fair, and reasonable.

A few clarifying questions:

Explain load "behind" substation?

Explain \$3/MW - traditionally, this is measured in \$/kWh (and accounts for 85%+ of monthly opex).

1: Yes to digging more, let's get the NDAs done ASAP.

2: 20MW site is ~65 BearBoxes, that'd take 10-12 months (and a load of capital).

3: 5MW site is ~18 BearBoxes, that'd take 3-4 months ("").

#gam-announcements ▾ Company-wide announcements and work-based matters. PSA: the off topic room is here [#offtopic](#)




 **Tom Masiero** 10:21 AM
Based

August 3rd, 2020 ▾

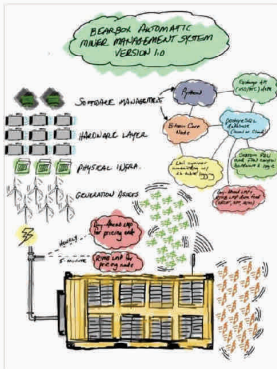
Austin Storms 10:51 AM
We should host an oil and gas Bitcoin mining virtual workshop and cold email the entire industry.
✓ 1 ☺


Rete Browning 10:52 AM
at DOE we called that "CC the world"
🔥 1 😊

 **Austin Storms** 10:54 AM
And make the first one invite only - call it An Intro to Bitcoin Mining: Oil and Gas

 **Marty Bent** 11:04 AM
love it

Austin Storms 11:05 AM
Maybe rework this illustration to utilize NG instead of wind?
Image from iOS ▾





 **Rete Browning** 11:06 AM
Did you draw that? 🤔

 **Tom Masiero** 11:07 AM
I love doodles like this

 Austin Storms 11:07 AM
Yea on an iPad Pro like 3 years ago 😂

This is what Layer1's demand response/controllable load resource program is in a kindergarten nutshell

With O&G, I could just rework parts of the stack to include a flare boom/vent and illustrate their existing problem we're working to solve.

 **Austin Storms** 11:30 AM
We doing this standup today?
 1 

Bearbox v Lancium
Trial Exhibit
TX957

TX962

**BearBox v. Lancium
21-cv-00534**

To: Austin Storms[austin@bearbox.io]; Mike Hoadley[mhoadley@glidepath.net]; Chris Vickery[cvickery@glidepath.net]
Cc: Ben Hakes[ben@paretoadvisors.com]
From: Denis Labij
Sent: Thur 4/25/2019 3:17:10 PM
Subject: RE: Day-ahead vs. RTBM LMP biz requirements and data questions

Austin,

See comments below in **red**.

Denis

From: Austin Storms <austin@bearbox.io>
Sent: Thursday, April 25, 2019 12:17 AM
To: Denis Labij <dlabij@glidepath.net>; Mike Hoadley <mhoadley@glidepath.net>; Chris Vickery <cvickery@glidepath.net>
Cc: Ben Hakes <ben@paretoadvisors.com>
Subject: Day-ahead vs. RTBM LMP biz requirements and data questions

Hey guys,

I've been working on some code for the miner management system that integrates RTBM LMP profitability checks - but have a few questions regarding business requirements and available data feeds.

From my understanding, the day-ahead LMP \$/MWh is calculated based on forecast estimated demand and the RTBM LMP \$/MWh fills the gap between the estimated demand in day-ahead market and actual demand in real-time... is this correct? **Sort of. In most ISOs the day-ahead market clears offered and self-scheduled generation against bid and self-scheduled load. Since there can be deviation charges for being off of your day-ahead schedule, I suspect most market participants offer and bid near their forecasts, though there may sometimes be reasons not to. RTBM is based on what is actually happening (ex ante) or actually has happened (ex post) on the system.**

The data modeling and system I've been building fetches RTBM LMP price and compares the profitability of selling load @ RTBM LMP vs. using the same load to mine Bitcoin, but I'm not exactly sure what the business requirements are - and I'm looking for a bit of guidance to build the model to show contrasted profitability. **You would first want to calculate a break even power price. This will depend on the power efficiency of your units, and the expected revenue per Terra Hash. Let's say this number is estimated to be \$30/MWh. You would either bid DA load at \$30 (i.e. you receive a schedule to draw load if the DA LMP is less than \$30) or you offer a block of generation equal to the capacity of your miner at \$30 (i.e. you receive a schedule to deliver power if the DA LMP is greater than \$30). You would then do the same thing in RT. That is, if the RT LMP is greater than \$30, and you have a DA schedule, you will want to curtail the miner and offset your DA schedule by selling it into the RT instead (this happens automatically as a result of being off of your DA schedule). Similarly, if you have no DA schedule, and prices go below \$30 in RT, you will want to turn your miner on. Settlements can get pretty complicated and may vary from one ISO to the next, but this is the general idea.**

The data feed I've been utilizing is from the SPP marketplace - see link here to the 5-minute RTBM (<https://marketplace.spp.org/file-api/download/rtbm-lmp-by-location?path=%2FRTBM-LMP-SL-latestInterval.csv>). The only problem with fetching the .csv file is that it's a bit finicky - *is there another data feed that Glide Path uses to get RTBM LMP pricing at specific node location?* **There is, but you need to be a market participant with portal access to query it. There is also public access to hourly-average RT prices**

but, as far as I know, not 5-min prices SPP mentions an FTP server in some of their Feb '18 published documentation, but I've yet to successfully authenticate to that server. **If this is part of the portal, you would need a market participant digital certificate with the appropriate permissions.**

As always, I appreciate your time, consideration, and helpful input!

Thanks and talk soon,

Austin
Austin M. Storms
BearBox, LLC
611 O' Keefe Avenue
New Orleans, LA 70113
austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.



Data Center Modules
Turbine Inlet Chilling
Modular Central Plants
Aftermarket Services

1803343 Lancium Data Box R3.2 - 11 May 18

Scope Split

By Lancium	By TAS
	Steel Base
	Steel / Aluminum Wall system
	Inlet Louvers
	Exit Louvers
	Inlet Filters
	Floor Grating
	Entry Doors, qty 2
	Building controls
	Fans – qty 20
	Misting System
	Fire System
	Distribution Panel Boards x qty 2, 1200A
	Utility Lighting
	Provisions for Security Entry
	Busway – requires clean install
	Starline Plug-Ins / Stab boxes
Shelf PDU / Whip?	
Miners – qty 980	
Miner Power Supply – qty 980	
Data Switches – qty ?	
Wire Management	
SCADA	
External stairs/platform for entry	
Data Box Field Installation	
Water supply / storage to feed misting system connections	
Electrical distribution to feed TAS Panel Boards	

Lancium Info Needed

1. Confirm scope split
2. Miner shelves supplied by Lancium or TAS?
3. Miner SCADA footprint, conduit and cable requirements
4. Miner relative humidity envelope

Bearbox v Lancium
Trial Exhibit
TX979

6110 Cullen Blvd. | Houston, TX 77021 | 713-877-8700 | www.tas.com

5. Plan for electrical distribution from Distribution Panel Boards all the way to the Miner Power Supply.
6. Confirm fire system media – CO2 vs misting system.

Schedule

Initial Build – 4 x 1.6MW Boxes. 10 weeks

5/21		Firm offering
5/25	4D	Receive PO, Down payment
6/8	2W	Complete Engr & Long lead POs issued
7/13	5W	Material receipt
7/27	2W	RTS, 2 boxes
8/1	3D	RTS, 2 boxes

Mass Build – 63 x 1.6MW Boxes.

8/13		Receive PO, Down payment
9/3	3W	Begin fabrication
9/14	2W	Receipt of all materials
9/24	1W+	RTS. 1 box per day
9/24-12/24		RTS. 1 box per day (5/week). Off 2D Thanksgiving. Off 5D Christmas.

Discussion Points

Control Narrative – fire, miners, fans, misting system

Maintainability – filters, misting system

Certifications – UL, other

Revision Tracking

Rev 1 – filter and evap plenum top mounted; 1 MW

Rev 2 - filter and evap plenum bottom mounted; 1 MW

Rev 3.0 – filter and misting system bottom mounted; single box; 1.6MW. 5-8-18

Rev 3.1 – filter and misting system bottom mounted; single box; Busway and Starline plug-in / stab box to TAS scope. 1.6MW. 5-9-18

Rev 3.2 – updated Lancium questions.

From: Jacob Magin <jacob.magin@mp2energy.com>

To: "ian.rock@lancium.com" <ian.rock@lancium.com>, "recline@lancium.com" <recline@lancium.com>, "thomas.salvatore@lancium.com" <thomas.salvatore@lancium.com>, "vitor.henrique@lancium.com" <vitor.henrique@lancium.com>

Cc: MP2 Asset Operations Desk <operations@mp2energy.com>

Subject: ADK_LD1 - Lancium.xlsx

Date: Mon, 26 Aug 2019 11:17:36 -0500

Importance: Normal

Attachments: ADK_LD1_-_Lancium.xlsx

Bearbox v Lancium
Trial Exhibit
TX981

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	8/26/2019																									
2	ADK_LD1			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
3		Awards	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.6	0.5
4		UMP	\$ 1.20	\$ 1.20	\$ 1.20	\$ 1.20	\$ 1.20	\$ 1.43	\$ 2.27	\$ 2.61	\$ 3.11	\$ 4.24	\$ 6.92	\$ 12.50	\$ 26.64	\$ 206.23	\$ 1,304.11	\$ 3,512.96	\$ 2,572.23	\$ 1,401.08	\$ 133.96	\$ 216.9	\$ 14.29	\$ 8.46	\$ 6.29	\$ 3.11

FRANK C. McCAMANT

PO Box 26921 • Austin, Texas 78755 • frank@mccamantconsulting.com • 512.422.4704

Independent consultant for the electric utilities industry

PROFESSIONAL EXPERIENCE

McCAMANT CONSULTING LLC, Austin, Texas

McCamant Consulting is a business and strategy development partner for organizations involved in energy resource management and smart grid development. Based in Austin, Texas, I help public and private entities develop a strategic focus for their business development efforts – and translate that strategy into action.

Relationships are important to any business, but they are crucial in the electric utility sector. I bring a wealth of executive-level relationships and experience negotiating tough deals while crafting sound public policy. Over the course of my 33-year career, I have tackled some of the toughest utility management challenges on the public agenda. My results-oriented, collaborative style has won the trust and support of stakeholders from the board room to the living room – often in highly charged environments.

Why do public and private industry leaders turn to McCamant Consulting for business and strategy development execution?

Two simple but powerful reasons: Relationships. Results.

Areas of Focus:

- Wholesale power supply PPAs
- ERCOT market stakeholder process/representation
- PUCT regulatory monitoring
- ERCOT market monitoring / analytics
- Demand Response opportunities
- Load Resources
- Power project development / off-take agreements
- Fuel procurement / generation operations
- Expert witness

(www.mccamantconsulting.com)

PROJECT EXPERIENCE

Ranch Land Partnership, South Texas, USA

Subject Matter Expert, ERCOT Market

Mr. McCamant provided advisory services for an independent assessment of a proposed solar farm development. This included securing an experienced engineering subcontractor for the detailed review.

Investor-owned Electric Utility, Missouri/Kansas, USA

Independent Assessment/Subject Matter Expert (Utilicast)

Mr. McCamant authored the Generation Operations/Fuel Procurement sections and provided overall review of a comprehensive report assessing the client's response to the extreme cold weather in the region that occurred between February 10, 2021, and February 20, 2021. Utilicast's findings were

TX983

**BearBox v. Lancium
21-cv-00534**

October 2021 - Present

October 2021 - November 2021

FRANK C. MCCAMANT • Page 4

delivered in a detailed written report addressing fuel procurement, generation, transmission and distribution operations, market coordination, and communications.

Professional Services Organization, Maryland, USA**September 2021 - Present**

Subject Matter Expert, ERCOT Market

Mr. McCamant provided advisory services for developing opportunities for FCC regulatory compliance offerings that service the wireless and utility industries.

Law Firm/Electric Cooperative, Texas, USA**June 2021 - November 2021**

Subject Matter Expert, ERCOT Market

Mr. McCamant was an expert rebuttal witness on the ERCOT market design and operation for a contested power plant property tax assessment case.

Electric Cooperative, Johnson City, Texas, USA**March 2021 – June 2021**

Subject Matter Expert, Regulatory & Legislative Issues (Utilicast)

Independent Assessment: Mr. McCamant was part of an after-action process and policy review concerning PEC's response to the extreme cold weather in the region that occurred between February 10, 2021 and February 20, 2021. Utilicast was charged with identifying potential gaps and opportunities in PEC's operations during the winter event. Mr. McCamant served as the SME for regulatory and legislative issues.

Non-profit Energy Company, New England, USA**February 2018 – Present**

Subject Matter Expert, Transmission Development, Renewables

Mr. McCamant provided advisory services for developing participation opportunities for new transmission projects in the Texas market including PUCT and ERCOT monitoring, relationship development, and ongoing support.

Regulatory Agency, Mexico City, Mexico**October - November 2016**

Subject Matter Expert, Demand Response (Utilicast)

Mr. McCamant provided a comprehensive report and recommendations for future implementation of demand response in Mexico's energy market.

Utilicast, Consultant**October 2016 – Present**

Subject Matter Expert

Utilicast is more than just a consulting company. We provide our customers in the energy industry with an expert level of service that brings results from both a Business Practices and Information Technology perspective. Our ability to provide customized software development, data knowledge, project management and deep business acumen helps Utilicast clients meet their goals on time and on budget. Headquartered in Seattle, Washington. (<http://www.utilicast.com>)

Telecommunications Network Company, Raleigh, NC, USA**May 2015**

Subject Matter Expert

Mr. McCamant provided research and a presentation on the characteristics and potential growth of energy storage resources.

Electric Cooperative, Bandera, Texas, USA**March 2014 – Present**

Subject Matter Expert, Wholesale power supply, Demand Response, Smart Grid, Distributed Energy Resources

Mr. McCamant provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, ERCOT market monitoring / analytics, and demand response opportunities.

FRANK C. MCCAMANT • Page 3

Crescent Power, Inc., Austin, TX, USA**October 2013 – Present***VP, Asset Development*

Mr. McCamant was part of a strategic consulting alliance that provided advisory and marketing support services for power project development clients and related off-take agreements, PUCT monitoring, and ERCOT market monitoring and analytics.

Consert, Inc., San Antonio, TX, USA**October 2011 – February 2013***Board Director*

Consert Inc. is a thought and action leader in the design and implementation of intelligent energy distribution and load management. Consert converts electric consumption in homes and small businesses into cost-effective, clean sources of capacity and energy reserves for utilities. The Consert load management solution is based on real-time, wireless technology which allows participants to conserve energy using a web-based, home area network. Consert utilizes the Verizon Wireless network to provide real-time communication to the Consert data center. This highly secure network delivers fast data speeds and increased efficiencies for utilities.

Municipal Electric Utility, San Marcos, TX, USA**August 2011 – Present***Subject Matter Expert, Wholesale power supply, Distributed Energy Resources*

Mr. McCamant provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, and ERCOT market monitoring / analytics.

Smart Grid Company, Raleigh, NC/ San Antonio, TX, USA**November 2009 – September 2014***Subject Matter Expert, Marketing*

Mr. McCamant provided advisory and marketing support services for demand response development for Smart Grid applications and related resource agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Independent Project Developer, Houston, TX, USA**July 2009 – June 2013***Subject Matter Expert, Marketing*

Mr. McCamant provided advisory and marketing support services for power project development and related off-take agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Small Consulting Company, Austin, TX, USA**May 2009 – October 2009***Subject Matter Expert*

Mr. McCamant provided advisory and support services for energy efficiency/demand response projects.

Regional Engineering Firm, Austin, TX, USA**October 2008 – November 2010***Subject Matter Expert, Marketing*

Mr. McCamant provided advisory and marketing support services for a pumped storage project development and related off-take agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Electric Cooperative, Bastrop, Texas, USA**September 2008 – Present***Subject Matter Expert, Wholesale power supply, Demand Response, Smart Grid, Distributed Energy Resources*

Mr. McCamant provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, ERCOT market monitoring / analytics, demand response opportunities, and Load Resources.

Lower Colorado River Authority, Austin, TX, USA**May 1978 – September 2008***Executive Management, Business Development, Strategic Planning, Fuels Development*

Business Development: Led efforts to successfully develop, negotiate, and implement major electric generation, electric transmission, and water utility development agreements. Led efforts to successfully establish public input and collaboration processes on controversial utility projects. Researched and established key external relationships and alliances.

Strategic Planning: Monitored high-level policy issues across the company and helped establish processes to resolve key issues at the board level. Established a corporate-level strategic planning process with senior management and board of directors. Developed strategic generation fuel portfolio to forecast and manage pricing structure and risk that resulted in lowest cost fuel in Texas; enabled company to gain competitive edge. Developed proposal and led initial effort to evaluate the viability of multi-million dollar acquisition partnership.

Financial Planning: Executive level steering committee that provided in-depth review and approval of financial policy, capital spending and long-term planning. Implemented and administered a capital budget process for diverse business units.

Administered multi-million dollar engineering/construction projects that consistently met timelines and budget constraints. Re-evaluated major gas storage project to determine validity of continuing the project; made immediate significant change to return the project to financial viability. Negotiated rail transportation contracts for fuel supplies that reduced cost by 33%.

Business Management: Utilized knowledge of contract law and mediation in the negotiation and administration of multi-million dollar contracts. Highly skilled in accurately defining problems and formulating collaborative teams to resolve issues. Restructured customer/community relations function implementing a regional representative plan that has proven successful in developing relationships and enhancing the company's image.

Electric Deregulation: Initiated and chaired a national coalition (Large Public Power Council) task force focused on responding to federal/state policy issues relating to the restructuring of the electric utility industry. Monitored electric industry restructuring and lead the development of strategic, operational, and legislative action plans.

OTHER EXPERIENCE**Electric Utility, Austin, TX, USA****December 1977 – May 1978***Staff Engineer*

Provided engineering support for the construction of a large jointly-owned Western coal power plant.

EDUCATION**University of Texas at Austin, TX****Executive MBA**

With honors, international studies in London.

University of Texas at Austin, TX**B.S. Civil Engineering**

With honors, Beta Sigma Gamma, Phi Kappa Phi.

SKILLS AND EXPERTISE

Smart Grid, Project Management, Vendor Management, Customer management, Power Marketing, Business Design, Market Design, Microsoft Office, Data Analysis, Energy Markets, Electricity Markets, Electric Power, Process Improvement, FERC, Energy Management, Program Management, Smart Metering, Power Systems, Business Process, Strategy, Project Planning, Power Generation,

FRANK C. MCCAMANT • Page 3

Engineering, Energy Policy, Energy Industry, Energy, Demand Response, Business Process Improvement, Integration

CERTIFICATIONS

Registered Professional Engineer • State of Texas • No. 51967

LANGUAGES

Native English and Basic German

APPOINTMENTS & HONORS

President/Chair –	Arc of the Capital Area Board of Directors (past) Texas Council on Autism & Pervasive Developmental Disorders (past)
Board Member –	Hope Chapel (past) Metropolitan Board of the Austin YMCA (past) Western Coal Traffic League Executive Board (past)
Member –	Large Public Power Council - Electric Restructuring Task Force (past Chair)
Honor Societies –	Beta Sigma Gamma

HOBBIES

Fly Fishing, Upland Hunting, Ranching, Photography, Music, and Traveling

Begin Bates	LANCIUM00032627
End Bates	LANCIUM00032627
Pages	1
BeginFamily	LANCIUM00032627
EndFamily	LANCIUM00032627
Family Range	LANCIUM00032627 - LANCIUM00032627
Parent Id	
AttachBates	
File Extension	xlsx
File Size	92137
MD5 Hash	05706b8459edcd238cb6694b2e091350
Date Modified	
Date Created	5/9/2019 16:28
Author	
Filename	exelon4_modeling_05092019 (1).xlsx
Time Received	
Date Received	
Date Sent	
Time Sent	
From	
To	
Cc	
Bcc	
Custodian	Raymond Cline Jr
Message Id	
Subject	
File Path	Cline Extracted User Files.zip.zip//Extracted User Files/Users/recli/Downloads/exelon4_modeling_05092019 (1).xlsx
TextPath	text\0001\LANCIUM00032627.txt
NativePath	natives\0001\LANCIUM00032627_CONFIDENTIAL.xlsx

TX984

BearBox v. Lancium
21-cv-00534

	A	B	C	D	E	F	G	H	I	J	K	L
1	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
2	5698.24	574867	0.0883609	5/6/19 11:37	0.0292715	0.9056602	4.81358E+13	2.6928794	6.70217E+12	0.0283682	0.8777121	2.6928794
3	5704.01	574867	0.0884504	5/6/19 11:42	0.0292715	0.9056602	4.81358E+13	2.6956062	6.70217E+12	0.0256282	0.6956062	2.6956062
4	5721.16	574868	0.0878003	5/6/19 11:47	0.0292715	0.9056602	4.86381E+13	2.6757929	6.70217E+12	0.0266466	0.8244458	2.6757929
5	5712.77	574868	0.0876715	5/6/19 11:52	0.0292715	0.9056602	4.86381E+13	2.6718689	6.70217E+12	0.0294184	0.9102053	2.6718689
6	5702.98	574868	0.0875213	5/6/19 11:57	0.0292715	0.9056602	4.86381E+13	2.6672901	6.70217E+12	0.2156316	6.6716417	6.6716417
7	5711.53	574868	0.0876525	5/6/19 12:02	0.0319112	0.9873325	4.86381E+13	2.671289	6.70217E+12	0.4257598	13.1730082	13.1730082
8	5719.99	574868	0.0877823	5/6/19 12:08	0.0319112	0.9873325	4.86381E+13	2.6752457	6.70217E+12	0.2947237	9.1187513	9.1187513
9	5711.93	574869	0.0870193	5/6/19 12:13	0.0319112	0.9873325	4.89954E+13	2.6519913	6.70217E+12	0.1560219	4.8273176	4.8273176
10	5708.01	574871	0.0868646	5/6/19 12:18	0.0319112	0.9873325	4.9049E+13	2.6472769	6.70217E+12	0.0253548	0.7844775	2.6472769
11	5701.9	574871	0.0867716	5/6/19 12:23	0.0319112	0.9873325	4.9049E+13	2.6444432	6.70217E+12	0.027036	0.8364938	2.6444432
12	5698.51	574871	0.08672	5/6/19 12:28	0.0319112	0.9873325	4.9049E+13	2.642871	6.70217E+12	0.026636	0.8241178	2.642871
13	5705.99	574875	0.0875317	5/6/19 13:07	0.0316965	0.9806897	4.86579E+13	2.6676082	6.70217E+12	0.0297482	0.9204093	2.6676082
14	5706.72	574875	0.0875429	5/6/19 13:11	0.0316965	0.9806897	4.86579E+13	2.6679495	6.70217E+12	0.0283545	0.8772882	2.6679495
15	5702.01	574875	0.0874707	5/6/19 13:16	0.0316965	0.9806897	4.86579E+13	2.6657475	6.70217E+12	0.0263671	0.8157981	2.6657475
16	5703.44	574876	0.0881359	5/6/19 13:21	0.0316965	0.9806897	4.83028E+13	2.6860221	6.70217E+12	0.027458	0.8495505	2.6860221
17	5705.99	574876	0.0881753	5/6/19 13:26	0.0316965	0.9806897	4.83028E+13	2.687223	6.70217E+12	0.0295297	0.9136489	2.687223
18	5706.85	574876	0.0881886	5/6/19 13:31	0.0316965	0.9806897	4.83028E+13	2.687628	6.70217E+12	0.029437	0.9107808	2.687628
19	5726.52	574876	0.0884926	5/6/19 13:36	0.0316965	0.9806897	4.83028E+13	2.6968915	6.70217E+12	0.0294668	0.911084	2.6968915
20	5727.41	574876	0.0885064	5/6/19 13:41	0.0316965	0.9806897	4.83028E+13	2.6973107	6.70217E+12	0.0291977	0.9033768	2.6973107
21	5742.95	574876	0.0887465	5/6/19 13:46	0.0316965	0.9806897	4.83028E+13	2.7046292	6.70217E+12	0.0461903	1.4291279	2.7046292
22	5734.03	574876	0.0886086	5/6/19 13:51	0.0316965	0.9806897	4.83028E+13	2.7004284	6.70217E+12	0.0300478	0.9296789	2.7004284
23	5731.45	574876	0.0885688	5/6/19 13:56	0.0316965	0.9806897	4.83028E+13	2.6992133	6.70217E+12	0.023358	0.7226965	2.6992133
24	5739.99	574877	0.0901743	5/6/19 14:01	0.0292446	0.9048279	4.75135E+13	2.7481417	6.70217E+12	0.0252541	0.7813619	2.7481417
25	5749.1	574877	0.0903174	5/6/19 14:06	0.0292446	0.9048279	4.75135E+13	2.7525033	6.70217E+12	0.022385	0.6925919	2.7525033
26	5732.99	574877	0.0900643	5/6/19 14:11	0.0292446	0.9048279	4.75135E+13	2.7447903	6.70217E+12	0.0278815	0.8626536	2.7447903
27	5722.65	574878	0.0904991	5/6/19 14:16	0.0292446	0.9048279	4.71999E+13	2.7580421	6.70217E+12	0.0276273	0.8547887	2.7580421
28	5719.43	574878	0.0904482	5/6/19 14:21	0.0292446	0.9048279	4.71999E+13	2.7564902	6.70217E+12	0.0401146	1.2411457	2.7564902
29	5727.52	574878	0.0905761	5/6/19 14:26	0.0292446	0.9048279	4.71999E+13	2.7603892	6.70217E+12	0.0357633	1.1065165	2.7603892
30	5719.12	574878	0.0904433	5/6/19 14:31	0.0292446	0.9048279	4.71999E+13	2.7563408	6.70217E+12	0.0216376	0.6694673	2.7563408
31	5720.06	574880	0.0904384	5/6/19 14:37	0.0292446	0.9048279	4.72102E+13	2.7561911	6.70217E+12	0.0206897	0.6401393	2.7561911
32	5730.64	574880	0.0906057	5/6/19 14:42	0.0292446	0.9048279	4.72102E+13	2.7612891	6.70217E+12	0.0212322	0.6569243	2.7612891
33	5734.69	574880	0.0906697	5/6/19 14:47	0.0292446	0.9048279	4.72102E+13	2.7632406	6.70217E+12	0.0214839	0.6647119	2.7632406
34	5739.31	574881	0.090775	5/6/19 14:52	0.0292446	0.9048279	4.71935E+13	2.7664494	6.70217E+12	0.0212921	0.6587776	2.7664494
35	5736.72	574882	0.0910352	5/6/19 14:57	0.0292446	0.9048279	4.70373E+13	2.7743811	6.70217E+12	0.020696	0.6403342	2.7743811
36	5741.99	574883	0.0905084	5/6/19 15:02	0.0212846	0.6585455	4.73545E+13	2.7583257	6.70217E+12	0.0203623	0.6300096	2.7583257
37	5733.24	574885	0.0890821	5/6/19 15:07	0.0212846	0.6585455	4.80395E+13	2.7148565	6.70217E+12	0.0198016	0.6126615	2.7148565
38	5724.73	574886	0.0885552	5/6/19 15:12	0.0212846	0.6585455	4.82535E+13	2.6988006	6.70217E+12	0.0190006	0.5878786	2.6988006
39	5709.73	574886	0.0883232	5/6/19 15:17	0.0212846	0.6585455	4.82535E+13	2.6917292	6.70217E+12	0.0184907	0.5721023	2.6917292
40	5678.11	574887	0.0883835	5/6/19 15:22	0.0212846	0.6585455	4.79528E+13	2.6936119	6.70217E+12	0.023136	0.7158278	2.6936119
41	5683.73	574888	0.0873487	5/6/19 15:27	0.0212846	0.6585455	4.85697E+13	2.6620299	6.70217E+12	0.0165815	0.5130316	2.6620299
42	5681.84	574891	0.0832705	5/6/19 15:32	0.0212846	0.6585455	5.09315E+13	2.5377429	6.70217E+12	0.0157946	0.4886849	2.5377429
43	5697.16	574891	0.083495	5/6/19 15:37	0.0212846	0.6585455	5.09315E+13	2.5445855	6.70217E+12	0.0722406	2.2351242	2.5445855
44	5684.36	574892	0.0835678	5/6/19 15:42	0.0212846	0.6585455	5.07728E+13	2.5468044	6.70217E+12	0.025128	0.7774603	2.5468044
45	5683.95	574894	0.0819393	5/6/19 15:47	0.0212846	0.6585455	5.17781E+13	2.4971743	6.70217E+12	0.0141482	0.4377453	2.4971743
46	5700.28	574894	0.0821747	5/6/19 15:52	0.0212846	0.6585455	5.17781E+13	2.5043487	6.70217E+12	0.0158794	0.4913086	2.5043487
47	5700.01	574895	0.0825354	5/6/19 15:57	0.0212846	0.6585455	5.15494E+13	2.515341	6.70217E+12	0.0142467	0.4407929	2.515341
48	5696.94	574897	0.0824036	5/6/19 16:02	0.0282033	0.8726101	5.16041E+13	2.5113225	6.70217E+12	0.0193804	0.5996296	2.5113225
49	5700.76	574897	0.0824508	5/6/19 16:07	0.0282033	0.8726101	5.16041E+13	2.5130065	6.70217E+12	0.0145181	0.449191	2.5130065
50	5684.53	574897	0.0822241	5/6/19 16:12	0.0282033	0.8726101	5.16041E+13	2.505852	6.70217E+12	0.0157287	0.486646	2.505852
51	5689.74	574897	0.0822994	5/6/19 16:18	0.0282033	0.8726101	5.16041E+13	2.5081486	6.70217E+12	0.0162324	0.5022305	2.5081486
52	5682.26	574897	0.0821912	5/6/19 16:23	0.0282033	0.8726101	5.16041E+13	2.5048513	6.70217E+12	0.0157041	0.4858849	2.5048513
53	5686.59	574898	0.0828228	5/6/19 16:28	0.0282033	0.8726101	5.12496E+13	2.5240987	6.70217E+12	0.0148626	0.4598488	2.5240987
54	5681.45	574899	0.0829971	5/6/19 16:33	0.0282033	0.8726101	5.10957E+13	2.5294123	6.70217E+12	0.0141661	0.4382991	2.5294123
55	5684.86	574899	0.0830469	5/6/19 16:38	0.0282033	0.8726101	5.10957E+13	2.5309305	6.70217E+12	0.0039202	0.121291	2.5309305
56	5679.5	574899	0.0829686	5/6/19 16:43	0.0282033	0.8726101	5.10957E+13	2.5285442	6.70217E+12	0.0059038	0.1826636	2.5285442
57	5681.53	574901	0.0836257	5/6/19 16:48	0.0282033	0.8726101	5.07124E+13	2.5485671	6.70217E+12	0.0056964	0.1762466	2.5485671
58	5689.99	574902	0.0837969	5/6/19 16:53	0.0282033	0.8726101	5.06841E+13	2.5537859	6.70217E+12	0.0098804	0.3056996	2.5537859
59	5691.01	574903	0.0831196	5/6/19 16:58	0.0282033	0.8726101	5.11063E+13	2.5331438	6.70217E+12	0.0072672	0.2248472	2.5331438
60	5699.02	574904	0.0827156	5/6/19 17:03	0.0245371	0.7591779	5.14281E+13	2.5208339	6.70217E+12	0.0100674	0.3114854	2.5208339
61	5700.57	574905	0.0827554	5/6/19 17:08	0.0245371	0.7591779	5.14174E+13	2.5220451	6.70217E+12	0.0086099	0.2663903	2.5220451
62	5695.51	574906	0.0812506	5/6/19 17:13	0.0245371	0.7591779	5.23232E+13	2.4761856	6.70217E+12	0.0053846	0.1665995	2.4761856
63	5694.8	574907	0.0809439	5/6/19 17:18	0.0245371	0.7591779	5.25149E+13	2.4668388	6.70217E+12	0.0017196	0.0532044	2.4668388
64	5695.29	574907	0.0809509	5/6/19 17:23	0.0245371	0.7591779	5.25149E+13	2.467051	6.70217E+12	0.0048459	0.1499321	2.467051
65	5711.94	574907	0.0811875	5/6/19 17:28	0.0245371	0.7591779	5.25149E+13	2.4742634	6.70217E+12	0.0072046	0.2229103	2.4742634
66	5717.52	574908	0.0815164	5/6/19 17:33	0.0245371	0.7591779	5.23541E+13	2.4842862	6.70217E+12	0.0173188	0.5358437	2.4842862
67	5717.19	574908	0.0815117	5/6/19 17:38	0.0245371	0.7591779	5.23541E+13	2.4841428	6.70217E+12	0.0107967	0.3340499	2.4841428
68	5709.94	574908	0.0814083	5/6/19 17:43	0.0245371	0.7591779	5.23541E+13	2.4809927				

	A	B	C	D	E	F	G	H	I	J	K	L
95	5745.01	574916	0.086617	5/6/19 20:00	0.0241251	0.7464306	4.9508E+13	2.6397319	6.70217E+12	-0.001813	-0.0560942	2.6397319
96	5763.99	574916	0.0869032	5/6/19 20:05	0.0241251	0.7464306	4.9508E+13	2.6484528	6.70217E+12	-0.0003708	-0.0114726	2.6484528
97	5769.68	574916	0.086989	5/6/19 20:10	0.0241251	0.7464306	4.9508E+13	2.6510673	6.70217E+12	0.0062241	0.1925737	2.6510673
98	5769.14	574917	0.0882187	5/6/19 20:15	0.0241251	0.7464306	4.88133E+13	2.6885453	6.70217E+12	0.0116013	0.3589442	2.6885453
99	5755.39	574917	0.0880085	5/6/19 20:20	0.0241251	0.7464306	4.88133E+13	2.6821375	6.70217E+12	0.0009813	0.0303614	2.6821375
100	5754.1	574917	0.0879887	5/6/19 20:25	0.0241251	0.7464306	4.88133E+13	2.6815363	6.70217E+12	-0.0161407	-0.4993933	2.6815363
101	5771.1	574917	0.0882487	5/6/19 20:30	0.0241251	0.7464306	4.88133E+13	2.6894587	6.70217E+12	-0.0174708	-0.5405466	2.6894587
102	5764.05	574918	0.0890788	5/6/19 20:35	0.0241251	0.7464306	4.82994E+13	2.714756	6.70217E+12	-0.0175085	-0.541713	2.714756
103	5752.2	574918	0.0889856	5/6/19 20:40	0.0241251	0.7464306	4.82994E+13	2.7091749	6.70217E+12	-0.0038463	-0.1190045	2.7091749
104	5755.49	574918	0.0889465	5/6/19 20:45	0.0241251	0.7464306	4.82994E+13	2.7107244	6.70217E+12	-0.0004318	-0.0133599	2.7107244
105	5762.02	574919	0.0902091	5/6/19 20:50	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	0.0004104	0.0126978	2.7492027
106	5760.7	574919	0.0901884	5/6/19 20:55	0.0241251	0.7464306	4.76774E+13	2.7485729	6.70217E+12	-0.0009508	-0.0294178	2.7485729
107	5762.49		0.0902164	5/6/19 21:02	0.0175071	0.5416697	4.76774E+13	2.749427		0.0007073	0.0218839	2.749427
108	5774.99	574920	0.1001885	5/6/19 21:19	0.0175071	0.5242793	4.74463E+13	2.9553058	6.70217E+12	-0.0013119	-0.039287	2.9553058
109	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
110	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
111	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
112	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
113	5843.89	574923	0.1041911	5/6/19 21:52	0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
114	5889.14	574923	0.1049979	5/6/19 21:57	0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
115	5938.96	574925	0.1060149	5/6/19 22:02	0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
116	5924.06	574925	0.105749	5/6/19 22:07	0.0137884	0.4129166	4.61118E+13	3.1193265	6.70217E+12	-0.0183554	-0.549683	3.1193265
117	5904.4	574925	0.105398	5/6/19 22:15	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
118	5904.4	574925	0.105398	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
119	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
120	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
121	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
122	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
123	5900.68	574927	0.1057464	5/6/19 22:23	0.0137884	0.4129166	4.59309E+13	3.119251	6.70217E+12	0.0035913	0.1075475	3.119251
124	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
125	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
126	5898.4	574930	0.1031447	5/6/19 22:35	0.0137884	0.4129166	4.70713E+13	3.0425064	6.70217E+12	-0.0289922	-0.8682197	3.0425064
127	5893.05	574930	0.1030511	5/6/19 22:37	0.0137884	0.4129166	4.70713E+13	3.0397468	6.70217E+12	-0.0289922	-0.8682197	3.0397468
128	5897.36	574930	0.1031265	5/6/19 22:42	0.0137884	0.4129166	4.70713E+13	3.04197	6.70217E+12	-0.0236925	-0.7095114	3.04197
129	5899.22	574931	0.1032757	5/6/19 22:47	0.0137884	0.4129166	4.70181E+13	3.046371	6.70217E+12	-0.0155618	-0.466024	3.046371
130	5901.5	574931	0.1033156	5/6/19 22:52	0.0137884	0.4129166	4.70181E+13	3.0475484	6.70217E+12	-0.0215767	-0.6461502	3.0475484
131	5895.01	574932	0.1028817	5/6/19 22:57	0.0137884	0.4129166	4.71645E+13	3.0347496	6.70217E+12	-0.0188905	-0.5657075	3.0347496
132	5882.85	574943	0.1003326	5/7/19 0:02	0.0098383	0.2946243	4.8263E+13	2.9595589	6.70217E+12	-0.0022652	-0.0794186	2.9595589
133	5891.99	574943	0.1004885	5/7/19 0:07	0.0098383	0.2946243	4.8263E+13	2.9641571	6.70217E+12	0.0003922	0.0117451	2.9641571
134	5896.7	574944	0.1020246	5/7/19 0:12	0.0098383	0.2946243	4.75743E+13	3.0094662	6.70217E+12	0.0109642	0.3283412	3.0094662
135	5903.84	574944	0.1021481	5/7/19 0:17	0.0098383	0.2946243	4.75743E+13	3.0311102	6.70217E+12	0.0001877	0.005621	3.0311102
136	5911.06	574944	0.102273	5/7/19 0:22	0.0098383	0.2946243	4.75743E+13	3.0167951	6.70217E+12	-0.0190565	-0.5706787	3.0167951
137	5885.39	574945	0.1028414	5/7/19 0:27	0.0098383	0.2946243	4.71059E+13	3.0335618	6.70217E+12	-0.005721	-0.1713249	3.0335618
138	5895.99	574945	0.1030267	5/7/19 0:32	0.0098383	0.2946243	4.71059E+13	3.0390254	6.70217E+12	0.005387	0.1613227	3.0390254
139	5897.07	574945	0.1030455	5/7/19 0:37	0.0098383	0.2946243	4.71059E+13	3.0395821	6.70217E+12	0.0090961	0.2723979	3.0395821
140	5898.51	574945	0.1030707	5/7/19 0:42	0.0098383	0.2946243	4.71059E+13	3.0403243	6.70217E+12	0.0000416	0.0012458	3.0403243
141	5901.99	574945	0.1031315	5/7/19 0:47	0.0098383	0.2946243	4.71059E+13	3.0421181	6.70217E+12	0.0002217	0.0066392	3.0421181
142	5889.59	574946	0.1043197	5/7/19 0:52	0.0098383	0.2946243	4.64716E+13	3.0771656	6.70217E+12	-0.0026672	-0.0798737	3.0771656
143	5889.01	574947	0.1040736	5/7/19 0:57	0.0098383	0.2946243	4.65768E+13	3.0699085	6.70217E+12	-0.0003307	-0.0099034	3.0699085
144	5877.69	574947	0.1038736	5/7/19 1:02	0.0105202	0.3150449	4.65768E+13	3.0640074	6.70217E+12	-0.0003011	-0.0090169	3.0640074
145	5889.43	574948	0.1042298	5/7/19 1:07	0.0105202	0.3150449	4.65104E+13	3.0745154	6.70217E+12	-0.0001362	-0.0040787	3.0745154
146	5887.99	574948	0.1042043	5/7/19 1:12	0.0105202	0.3150449	4.65104E+13	3.0737637	6.70217E+12	0.0091898	0.2752039	3.0737637
147	5867.4	574948	0.1038399	5/7/19 1:17	0.0105202	0.3150449	4.65104E+13	3.0630149	6.70217E+12	0.0091883	0.275159	3.0630149
148	5883.85	574950	0.1044213	5/7/19 1:22	0.0105202	0.3150449	4.63811E+13	3.0801634	6.70217E+12	0.0098517	0.2950256	3.0801634
149	5871.24	574950	0.1041975	5/7/19 1:27	0.0105202	0.3150449	4.63811E+13	3.0735621	6.70217E+12	0.0110652	0.3313659	3.0735621
150	5870.35	574950	0.1041817	5/7/19 1:32	0.0105202	0.3150449	4.63811E+13	3.0730962	6.70217E+12	0.0117356	0.3514421	3.0730962
151	5880.51	574950	0.104362	5/7/19 1:37	0.0105202	0.3150449	4.63811E+13	3.0784149	6.70217E+12	0.0114298	0.3422844	3.0784149
152	5887.56	574951	0.1056193	5/7/19 1:42	0.0105202	0.3150449	4.58839E+13	3.1155019	6.70217E+12	0.0158031	0.4732502	3.1155019
153	5888.94	574951	0.1056441	5/7/19 1:47	0.0105202	0.3150449	4.58839E+13	3.1162321	6.70217E+12	0.0139082	0.4165042	3.1162321
154	5890.07	574951	0.1056643	5/7/19 1:52	0.0105202	0.3150449	4.58839E+13	3.1168301	6.70217E+12	0.0141407	0.4234668	3.1168301
155	5887.93	574952	0.1061226	5/7/19 1:57	0.0105202	0.3150449	4.56692E+13	3.1303483	6.70217E+12	0.0129154	0.3867732	3.1303483
156	5879.77	574953	0.1056897	5/7/19 2:02	0.011378	0.3407332	4.57927E+13	3.117579	6.70217E+12	0.0142018	0.4252966	3.117579
157	5880.52	574954	0.1043159	5/7/19 2:07	0.011378	0.3407332	4.64017E+13	3.0770561	6.70217E+12	0.0139436	0.4175643	3.0770561
158	5875.01	574954	0.1042182	5/7/19 2:12	0.011378	0.3407332	4.64017E+13	3.074173	6.70217E+12	0.0105143	0.3148682	3.074173
159	5873.6	574954	0.1041932	5/7/19 2:17	0.011378	0.3407332	4.64017E+13	3.0734352	6.70217E+12	0.0094361	0.2825797	3.0734352
160	5871.85	574955	0.1044686	5/7/19 2:22	0.011378	0.3407332	4.62656E+13	3.0815582	6.70217E+12	0.0088951	0.2663786	3.0815582
161	5871.01	574956	0.103617	5/7/19 2:27	0.011378	0.3407332	4.66391E+13	3.0564397	6.70217E+12	0.0093072	0.2787196	3.0564397
162	5859.85	574956	0.1034201	5/7/								

	A	B	C	D	E	F	G	H	I	J	K	L
189	5915.11	574965	0.1084223	5/7/19 4:47	0.0132424	0.3965657	4.49069E+13	3.1981835	6.70217E+12	0.0166224	0.4977855	3.1981835
190	5909.7	574965	0.1083231	5/7/19 4:52	0.0132424	0.3965657	4.49069E+13	3.1952584	6.70217E+12	0.0144629	0.4331156	3.1952584
191	5906.81	574966	0.1085559	5/7/19 4:57	0.0132424	0.3965657	4.47887E+13	3.2021242	6.70217E+12	0.014704	0.4403358	3.2021242
192	5914.74	574966	0.1087016	5/7/19 5:02	0.0163996	0.4911134	4.47887E+13	3.2064231	6.70217E+12	0.0082133	0.245961	3.2064231
193	5917.1	574967	0.109481	5/7/19 5:07	0.0163996	0.4911134	4.44875E+13	3.2294129	6.70217E+12	0.0137796	0.4126531	3.2294129
194	5912.39	574967	0.1093939	5/7/19 5:12	0.0163996	0.4911134	4.44875E+13	3.2268423	6.70217E+12	0.0156701	0.4692673	3.2268423
195	5894.35	574968	0.1094478	5/7/19 5:17	0.0163996	0.4911134	4.433E+13	3.2284315	6.70217E+12	0.0146488	0.4386827	3.2284315
196	5898.35	574968	0.109522	5/7/19 5:22	0.0163996	0.4911134	4.433E+13	3.2306223	6.70217E+12	0.0145908	0.4369458	3.2306223
197	5902.16	574969	0.1079698	5/7/19 5:27	0.0163996	0.4911134	4.49963E+13	3.1848344	6.70217E+12	0.0155564	0.4658623	3.1848344
198	5900.85	574969	0.1079458	5/7/19 5:32	0.0163996	0.4911134	4.49963E+13	3.1841275	6.70217E+12	0.0134736	0.4034894	3.1841275
199	5900.34	574969	0.1079365	5/7/19 5:37	0.0163996	0.4911134	4.49963E+13	3.1838523	6.70217E+12	0.0130804	0.3917144	3.1838523
200	5898.32	574969	0.1078995	5/7/19 5:42	0.0163996	0.4911134	4.49963E+13	3.1827623	6.70217E+12	0.0152049	0.4553361	3.1827623
201	5896.02	574970	0.1092694	5/7/19 5:47	0.0163996	0.4911134	4.44149E+13	3.2231712	6.70217E+12	0.0153738	0.4603941	3.2231712
202	5901.06	574971	0.1070272	5/7/19 5:52	0.0163996	0.4911134	4.53842E+13	3.1570311	6.70217E+12	0.0162384	0.486286	3.1570311
203	5889.23	574971	0.1068126	5/7/19 5:57	0.0163996	0.4911134	4.53842E+13	3.1507021	6.70217E+12	0.0142726	0.4274168	3.1507021
204	5888.81	574971	0.106805	5/7/19 6:02	0.0219988	0.6587907	4.53842E+13	3.1504774	6.70217E+12	0.0140196	0.4198403	3.1504774
205	5888.88	574971	0.1068063	5/7/19 6:07	0.0219988	0.6587907	4.53842E+13	3.1505149	6.70217E+12	0.0128572	0.3850303	3.1505149
206	5894.99	574971	0.1069171	5/7/19 6:12	0.0219988	0.6587907	4.53842E+13	3.1537837	6.70217E+12	0.0139901	0.4189569	3.1537837
207	5888.93	574973	0.1083283	5/7/19 6:17	0.0219988	0.6587907	4.47469E+13	3.1954116	6.70217E+12	0.0169327	0.5070779	3.1954116
208	5883.23	574973	0.1082235	5/7/19 6:22	0.0219988	0.6587907	4.47469E+13	3.1923187	6.70217E+12	0.0161834	0.4846389	3.1923187
209	5874.07	574973	0.108055	5/7/19 6:27	0.0219988	0.6587907	4.47469E+13	3.1873483	6.70217E+12	0.0160255	0.4799103	3.1873483
210	5873.01	574975	0.1081041	5/7/19 6:32	0.0219988	0.6587907	4.47185E+13	3.1887959	6.70217E+12	0.0161849	0.4846838	3.1887959
211	5877.1	574977	0.1051264	5/7/19 6:37	0.0219988	0.6587907	4.60172E+13	3.1009613	6.70217E+12	0.0160886	0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1041746	6.70217E+12	0.01829	0.5477245	3.1041746
213	5883.91	574979	0.1039877	5/7/19 6:47	0.0219988	0.6587907	4.6575E+13	3.0673739	6.70217E+12	0.0197193	0.5905273	3.0673739
214	5887.01	574980	0.1024096	5/7/19 6:52	0.0219988	0.6587907	4.73176E+13	3.0208243	6.70217E+12	0.0172624	0.5169513	3.0208243
215	5890.93	574981	0.1023627	5/7/19 6:57	0.0219988	0.6587907	4.73708E+13	3.0194404	6.70217E+12	0.0219934	0.658629	3.0194404
216	5891.99	574981	0.1023811	5/7/19 7:02	0.0252156	0.7551232	4.73708E+13	3.0199837	6.70217E+12	0.0190854	0.5715441	3.0199837
217	5901.6	574981	0.1025481	5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094	6.70217E+12	0.022021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	5/7/19 7:12	0.0252156	0.7551232	4.72845E+13	3.0266666	6.70217E+12	0.019538	0.585098	3.0266666
219	5902.76	574983	0.1021815	5/7/19 7:17	0.0252156	0.7551232	4.75501E+13	3.0140942	6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/19 7:22	0.0252156	0.7551232	4.73864E+13	3.0240881	6.70217E+12	0.0333844	0.9997515	3.0240881
221	5902.21	574986	0.1024856	5/7/19 7:27	0.0252156	0.7551232	4.74046E+13	3.0230648	6.70217E+12	0.0226755	0.6790556	3.0230648
222	5897.09	574987	0.1012514	5/7/19 7:32	0.0252156	0.7551232	4.79408E+13	2.9866604	6.70217E+12	0.0258656	0.7745885	2.9866604
223	5891.39	574988	0.1001624	5/7/19 7:37	0.0252156	0.7551232	4.84152E+13	2.9545379	6.70217E+12	0.0217027	0.6499235	2.9545379
224	5896.98	574988	0.1002575	5/7/19 7:42	0.0252156	0.7551232	4.84152E+13	2.9573413	6.70217E+12	0.0181457	0.5434032	2.9573413
225	5915.01	574989	0.0992602	5/7/19 7:47	0.0252156	0.7551232	4.90511E+13	2.9279253	6.70217E+12	0.0175618	0.5259174	2.9279253
226	5909.89	574989	0.0991743	5/7/19 7:52	0.0252156	0.7551232	4.90511E+13	2.9253909	6.70217E+12	0.0176235	0.5277651	2.9253909
227	5907.41	574990	0.0997661	5/7/19 7:57	0.0252156	0.7551232	4.87396E+13	2.9428486	6.70217E+12	0.02076065	6.2171227	6.2171227
228	5909.98	574990	0.0998905	5/7/19 8:02	0.0276548	0.8281691	4.87396E+13	2.9441289	6.70217E+12	0.03509108	10.5086088	10.5086088
229	5885.9	574991	0.1001084	5/7/19 8:07	0.0276548	0.8281691	4.83962E+13	2.9529431	6.70217E+12	1.0618156	31.7978378	31.7978378
230	5894.01	574991	0.1002463	5/7/19 8:12	0.0276548	0.8281691	4.83962E+13	2.9570118	6.70217E+12	0.3477068	10.4126596	10.4126596
231	5901.61	574991	0.1003756	5/7/19 8:17	0.0276548	0.8281691	4.83962E+13	2.9608247	6.70217E+12	0.2233212	6.6877255	6.6877255
232	5901.01	574993	0.0990295	5/7/19 8:22	0.0276548	0.8281691	4.9049E+13	2.9211197	6.70217E+12	0.1839307	5.5081114	5.5081114
233	5896.99	574993	0.098962	5/7/19 8:27	0.0276548	0.8281691	4.9049E+13	2.9191298	6.70217E+12	0.2097637	6.2817236	6.2817236
234	5903.12	574994	0.0985656	5/7/19 8:32	0.0276548	0.8281691	4.92975E+13	2.9074343	6.70217E+12	0.0304959	0.9132506	2.9074343
235	5904.99	574994	0.0985968	5/7/19 8:37	0.0276548	0.8281691	4.92975E+13	2.9083554	6.70217E+12	0.0229099	0.6860751	2.9083554
236	5928.02	574994	0.0989813	5/7/19 8:42	0.0276548	0.8281691	4.92975E+13	2.9196982	6.70217E+12	0.023268	0.696799	2.9196982
237	5918.93	574994	0.0988295	5/7/19 8:47	0.0276548	0.8281691	4.92975E+13	2.9152212	6.70217E+12	0.0200853	0.6014878	2.9152212
238	5920.48	574994	0.0988554	5/7/19 8:52	0.0276548	0.8281691	4.92975E+13	2.9159846	6.70217E+12	0.02447	0.7327949	2.9159846
239	5927.27	574996	0.1000578	5/7/19 8:57	0.0276548	0.8281691	4.8761E+13	2.9514506	6.70217E+12	0.0185494	0.5554927	2.9514506
240	5970.03	574997	0.0973284	5/7/19 9:02	0.0268411	0.8038015	5.049E+13	2.8709404	6.70217E+12	0.0182697	0.5471166	2.8709404
241	5896.92	574997	0.0961365	5/7/19 9:07	0.0268411	0.8038015	5.049E+13	2.8357824	6.70217E+12	0.0189375	0.567115	2.8357824
242	5876.01	574998	0.0954385	5/7/19 9:12	0.0268411	0.8038015	5.06789E+13	2.8151949	6.70217E+12	0.0203296	0.6088038	2.8151949
243	5818.78	574999	0.0935121	5/7/19 9:17	0.0268411	0.8038015	5.12192E+13	2.758369	6.70217E+12	0.0194987	0.5839211	2.758369
244	5836.61	574999	0.0937986	5/7/19 9:22	0.0268411	0.8038015	5.12192E+13	2.7668213	6.70217E+12	0.0190273	0.5698042	2.7668213
245	5852.94	574999	0.094061	5/7/19 9:27	0.0268411	0.8038015	5.12192E+13	2.7745624	6.70217E+12	0.0201623	0.6037937	2.7745624
246	5843.39	575000	0.0949282	5/7/19 9:32	0.0268411	0.8038015	5.06685E+13	2.8001417	6.70217E+12	0.0195915	0.5867001	2.8001417
247	5840.9	575000	0.0948878	5/7/19 9:37	0.0268411	0.8038015	5.06685E+13	2.7989485	6.70217E+12	0.0208798	0.6252804	2.7989485
248	5844.44	575000	0.0949453	5/7/19 9:42	0.0268411	0.8038015	5.06685E+13	2.8006448	6.70217E+12	0.0199536	0.5975438	2.8006448
249	5831.94	575001	0.0948603	5/7/19 9:47	0.0268411	0.8038015	5.06054E+13	2.7981392	6.70217E+12	0.0196606	0.5887694	2.7981392
250	5840.78	575003	0.0941941	5/7/19 9:52	0.0268411	0.8038015	5.10406E+13	2.7784869	6.70217E+12	0.0187964	0.5628895	2.7784869
251	5839.47	575003	0.094173	5/7/19 9:57	0.0268411	0.8038015	5.10406E+13	2.7778637	6.70217E+12	0.0188057	0.563168	2.7778637
252	5836.55	575003	0.0941259	5/7/19 9:58	0.0268411	0.8038015	5.10406E+13	2.7764747	6.70217E+12	0.0188057	0.563168	2.7764747
253	5843.59	575003	0.0942394	5/7/19 10:03	0.0287164	0.8599605	5.10406E+13	2.7798236	6.70217E+12	0.0202762	0.6072046	2.7798236
254	5851.93	575003	0.0943739	5/7/19 10:08	0.0287164	0.8599605	5.10406E+13	2.783791	6.70217E+12	0.0195808	0.5863797	2.783791
255	5840.6	575003	0.0941912	5/7/19 10:13	0.0287164	0.8599605	5.10406E+13	2.7784013	6.70217E+12	0.0202654	0.6068812	2.7784013
256	5841.73	575003	0.0942094									

	A	B	C	D	E	F	G	H	I	J	K	L
283	5888.74	575011	0.1032466	5/7/19 11:58	0.0273473	0.8189605	4.69478E+13	3.0455122	6.70217E+12	0.0189953	0.5688459	3.0455122
284	5894.74	575011	0.1033518	5/7/19 12:03	0.0270574	0.8102789	4.69478E+13	3.0486153	6.70217E+12	0.0201972	0.6048388	3.0486153
285	5895.72	575011	0.1033689	5/7/19 12:08	0.0270574	0.8102789	4.69478E+13	3.0491221	6.70217E+12	0.0246114	0.7370294	3.0491221
286	5907.12	575011	0.1035688	5/7/19 12:13	0.0270574	0.8102789	4.69478E+13	3.0550179	6.70217E+12	0.0195085	0.5842145	3.0550179
287	5908.19	575013	0.1040015	5/7/19 12:18	0.0270574	0.8102789	4.67609E+13	3.0677806	6.70217E+12	0.0177224	0.5307268	3.0677806
288	5895.99	575013	0.1037867	5/7/19 12:23	0.0270574	0.8102789	4.67609E+13	3.0614459	6.70217E+12	0.0163822	0.4905893	3.0614459
289	5898.02	575014	0.1043706	5/7/19 12:27	0.0270574	0.8102789	4.65154E+13	3.0786681	6.70217E+12	0.0162962	0.4880169	3.0786681
290	5895.6	575014	0.1043278	5/7/19 12:32	0.0270574	0.8102789	4.65154E+13	3.0774049	6.70217E+12	0.0164602	0.4929281	3.0774049
291	5887.34	575016	0.1041844	5/7/19 12:37	0.0270574	0.8102789	4.65141E+13	3.0731761	6.70217E+12	0.0200409	0.6001582	3.0731761
292	5889.4	575016	0.1042209	5/7/19 12:42	0.0270574	0.8102789	4.65141E+13	3.0742514	6.70217E+12	0.0215114	0.6441947	3.0742514
293	5893.65	575016	0.1042961	5/7/19 12:47	0.0270574	0.8102789	4.65141E+13	3.0764699	6.70217E+12	0.020945	0.6272329	3.0764699
294	5893.83	575018	0.1033386	5/7/19 12:52	0.0270574	0.8102789	4.69465E+13	3.0482275	6.70217E+12	0.0215906	0.6465665	3.0482275
295	5890.09	575018	0.103273	5/7/19 12:57	0.0270574	0.8102789	4.69465E+13	3.0462932	6.70217E+12	0.0199465	0.5973312	3.0462932
296	5887.86	575018	0.1032339	5/7/19 13:02	0.0260477	0.7800418	4.69465E+13	3.0451399	6.70217E+12	0.0182097	0.5453198	3.0451399
297	5877.45	575018	0.1030514	5/7/19 13:07	0.0260477	0.7800418	4.69465E+13	3.0397559	6.70217E+12	0.0171154	0.5125492	3.0397559
298	5880.76	575018	0.1031095	5/7/19 13:12	0.0260477	0.7800418	4.69465E+13	3.0414678	6.70217E+12	0.0158291	0.4740288	3.0414678
299	5885.01	575018	0.103184	5/7/19 13:17	0.0260477	0.7800418	4.69465E+13	3.0436659	6.70217E+12	0.0156699	0.4700698	3.0436659
300	5886.65	575019	0.105185	5/7/19 13:22	0.0260477	0.7800418	4.60663E+13	3.10269	6.70217E+12	0.0194576	0.5826903	3.10269
301	5886.81	575019	0.1051878	5/7/19 13:27	0.0260477	0.7800418	4.60663E+13	3.1027744	6.70217E+12	0.0237637	0.7116436	3.1027744
302	5886.02	575019	0.1051737	5/7/19 13:32	0.0260477	0.7800418	4.60663E+13	3.102358	6.70217E+12	0.034183	1.0236669	3.102358
303	5878.86	575019	0.1050458	5/7/19 13:37	0.0260477	0.7800418	4.60663E+13	3.0985841	6.70217E+12	0.4823059	14.443454	14.4424354
304	5879.94	575019	0.1050651	5/7/19 13:42	0.0260477	0.7800418	4.60663E+13	3.0991534	6.70217E+12	0.1343145	4.0222716	4.0222716
305	5872.78	575020	0.1055767	5/7/19 13:47	0.0260477	0.7800418	4.57872E+13	3.1142442	6.70217E+12	0.0287544	0.8610984	3.1142442
306	5868.57	575020	0.105501	5/7/19 13:52	0.0260477	0.7800418	4.57872E+13	3.1120117	6.70217E+12	0.0442637	1.3255503	3.1120117
307	5877.6	575020	0.1056633	5/7/19 13:57	0.0260477	0.7800418	4.57872E+13	3.1168002	6.70217E+12	0.0156508	0.4686893	3.1168002
308	5880.3	575021	0.1070192	5/7/19 14:02	0.025584	0.7661555	4.52279E+13	3.156795	6.70217E+12	0.0212368	0.6359714	3.156795
309	5873.1	575021	0.1068882	5/7/19 14:07	0.025584	0.7661555	4.52279E+13	3.1529297	6.70217E+12	0.0135226	0.4049568	3.1529297
310	5856.76	575021	0.1065908	5/7/19 14:12	0.025584	0.7661555	4.52279E+13	3.1441577	6.70217E+12	0.0161145	0.4825756	3.1441577
311	5835.32	575021	0.1062006	5/7/19 14:17	0.025584	0.7661555	4.52279E+13	3.1326478	6.70217E+12	0.021294	0.6376843	3.1326478
312	5823.7	575021	0.1059891	5/7/19 14:22	0.025584	0.7661555	4.52279E+13	3.1264097	6.70217E+12	0.0232619	0.6966164	3.1264097
313	5823.9	575021	0.1059927	5/7/19 14:27	0.025584	0.7661555	4.52279E+13	3.1265171	6.70217E+12	0.0186602	0.5588108	3.1265171
314	5844.51	575021	0.1063678	5/7/19 14:32	0.025584	0.7661555	4.52279E+13	3.1375814	6.70217E+12	0.0221179	0.6623574	3.1375814
315	5852.73	575022	0.1090264	5/7/19 14:37	0.025584	0.7661555	4.41871E+13	3.2160024	6.70217E+12	0.0160534	0.4807458	3.2160024
316	5842.59	575022	0.1088375	5/7/19 14:42	0.025584	0.7661555	4.41871E+13	3.2104306	6.70217E+12	0.0139152	0.4167139	3.2104306
317	5844.51	575023	0.1093454	5/7/19 14:47	0.025584	0.7661555	4.39963E+13	3.225412	6.70217E+12	0.0096897	0.2901742	3.225412
318	5842.77	575023	0.1093128	5/7/19 14:52	0.025584	0.7661555	4.39963E+13	3.2244517	6.70217E+12	0.0082441	0.2468833	3.2244517
319	5843.27	575023	0.1093222	5/7/19 14:57	0.025584	0.7661555	4.39963E+13	3.2247277	6.70217E+12	0.0080116	0.2399207	3.2247277
320	5849.85	575023	0.1094453	5/7/19 15:02	0.0200751	0.6011823	4.39963E+13	3.228359	6.70217E+12	0.0041722	0.1249375	3.228359
321	5844.11	575023	0.1093379	5/7/19 15:07	0.0200751	0.6011823	4.39963E+13	3.2251913	6.70217E+12	0.0063173	0.1891821	3.2251913
322	5838.69	575023	0.1092365	5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12	0.0074128	0.2219887	3.2222001
323	5843.57	575023	0.1093278	5/7/19 15:17	0.0200751	0.6011823	4.39963E+13	3.2248932	6.70217E+12	0.0068169	0.2041434	3.2248932
324	5844.59	575023	0.1093469	5/7/19 15:22	0.0200751	0.6011823	4.39963E+13	3.2254562	6.70217E+12	0.0173942	0.5208983	3.2254562
325	5849.99	575023	0.1094479	5/7/19 15:27	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0160868	0.481746	3.2284363
326	5849.99	575023	0.1094479	5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
327	5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
328	5861.7	575023	0.109667	5/7/19 15:42	0.0200751	0.6011823	4.39963E+13	3.2348987	6.70217E+12	0.0164337	0.4921345	3.2348987
329	5871.48	575024	0.1144475	5/7/19 15:47	0.0200751	0.6011823	4.22289E+13	3.3759101	6.70217E+12	0.0172669	0.5170861	3.3759101
330	5859.1	575024	0.1142061	5/7/19 15:52	0.0200751	0.6011823	4.22289E+13	3.368792	6.70217E+12	0.0085437	0.2558553	3.368792
331	5854.1	575025	0.1144044	5/7/19 15:57	0.0200751	0.6011823	4.21197E+13	3.3746406	6.70217E+12	0.0200752	0.6011853	3.3746406
332	5843.22	575026	0.1144995	5/7/19 16:02	0.0216225	0.6475218	4.20066E+13	3.3774456	6.70217E+12	0.0220984	0.6617734	3.3774456
333	5853.43	575026	0.1146996	5/7/19 16:07	0.0216225	0.6475218	4.20066E+13	3.3833471	6.70217E+12	0.0156725	0.4693391	3.3833471
334	5856.16	575026	0.1147331	5/7/19 16:12	0.0216225	0.6475218	4.20066E+13	3.384925	6.70217E+12	0.0214597	0.6426465	3.384925
335	5854.02	575026	0.1147111	5/7/19 16:17	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12	0.0239835	0.7182259	3.3836881
336	5850.81	575026	0.1146482	5/7/19 16:22	0.0216225	0.6475218	4.20066E+13	3.3818327	6.70217E+12	0.0167074	0.5003309	3.3818327
337	5854.62	575027	0.1163454	5/7/19 16:27	0.0216225	0.6475218	4.14207E+13	3.4318944	6.70217E+12	0.0156102	0.4674735	3.4318944
338	5855.8	575028	0.1157465	5/7/19 16:32	0.0216225	0.6475218	4.16435E+13	3.4142287	6.70217E+12	0.0163249	0.4888763	3.4142287
339	5856.74	575029	0.1142802	5/7/19 16:37	0.0216225	0.6475218	4.21846E+13	3.379755	6.70217E+12	0.0175314	0.5250073	3.379755
340	5868.02	575029	0.1145003	5/7/19 16:42	0.0216225	0.6475218	4.21846E+13	3.3774679	6.70217E+12	0.0151098	0.4524881	3.3774679
341	5872.51	575029	0.1145879	5/7/19 16:47	0.0216225	0.6475218	4.21846E+13	3.3800522	6.70217E+12	0.0146534	0.4388205	3.3800522
342	5871.99	575029	0.1145777	5/7/19 16:52	0.0216225	0.6475218	4.21846E+13	3.3797529	6.70217E+12	0.0175759	0.5263396	3.3797529
343	5880.77	575029	0.1147491	5/7/19 16:57	0.0216225	0.6475218	4.21846E+13	3.3848064	6.70217E+12	0.0063504	0.1901733	3.3848064
344	5886.53	575029	0.1148614	5/7/19 17:02	0.0204922	0.6136731	4.21846E+13	3.3881217	6.70217E+12	0.0061338	0.1836869	3.3881217
345	5889.98	575029	0.1149288	5/7/19 17:07	0.0204922	0.6136731	4.21846E+13	3.3901075	6.70217E+12	0.0028472	0.0852641	3.3901075
346	5885.6	575031	0.1147347	5/7/19 17:12	0.0204922	0.6136731	4.22212E+13	3.3846492	6.70217E+12	0.0111196	0.332995	3.3846492
347	5883.88	575032	0.1144564	5/7/19 17:17	0.0204922	0.6136731	4.23148E+13	3.3761744	6.70217E+12	0.0197231	0.5906411	3.3761744
348	5871.02	575033	0.114058	5/7/19 17:22	0.0204922	0.6136731	4.23698E+13	3.364421	6.70217E+12	0.013771	0.4123955	3.364421
349	5872.05	575033	0.114078	5/7/19 17:27	0.0204922	0.6136731	4.23698E+13	3.3650113	6.70217E+12	0.0099314	0.2974123	3.3650113

	A	B	C	D	E	F	G	H	I	J	K	L
377	5780.76	575048	0.1048412	5/7/19 19:48	0.0208363	0.6239777	4.5386E+13	3.0925494	6.70217E+12	0.0184615	0.5528604	3.0925494
378	5772.27	575049	0.1062044	5/7/19 19:53	0.0208363	0.6239777	4.47376E+13	3.1327595	6.70217E+12	0.0170593	0.5108692	3.1327595
379	5763.53	575049	0.1060035	5/7/19 19:58	0.0208363	0.6239777	4.47376E+13	3.128016	6.70217E+12	0.0193825	0.5804413	3.128016
380	5774.99	575049	0.1062544	5/7/19 20:03	0.0214057	0.6410294	4.47376E+13	3.1342357	6.70217E+12	0.0225229	0.6744858	3.1342357
381	5785.64	575050	0.1067275	5/7/19 20:08	0.0214057	0.6410294	4.46214E+13	3.1481898	6.70217E+12	0.0200782	0.6012752	3.1481898
382	5794.65	575050	0.1065264	5/7/19 20:13	0.0214057	0.6410294	4.47753E+13	3.1422582	6.70217E+12	0.0189119	0.5663484	3.1422582
383	5794.99	575052	0.105856	5/7/19 20:18	0.0214057	0.6410294	4.50615E+13	3.1224836	6.70217E+12	0.0168789	0.5054668	3.1224836
384	5777.32	575052	0.1055332	5/7/19 20:23	0.0214057	0.6410294	4.50615E+13	3.1129625	6.70217E+12	0.0188787	0.5653541	3.1129625
385	5779.44	575052	0.1055719	5/7/19 20:28	0.0214057	0.6410294	4.50615E+13	3.1141049	6.70217E+12	0.0185028	0.5540972	3.1141049
386	5784.49	575053	0.1069047	5/7/19 20:33	0.0214057	0.6410294	4.45386E+13	3.1534189	6.70217E+12	0.0168679	0.5051374	3.1534189
387	5792.26	575054	0.1071284	5/7/19 20:38	0.0214057	0.6410294	4.45053E+13	3.1600161	6.70217E+12	0.0100913	0.3022008	3.1600161
388	5794.99	575055	0.1078127	5/7/19 20:43	0.0214057	0.6410294	4.42437E+13	3.1802017	6.70217E+12	0.0159387	0.4773109	3.1802017
389	5798.99	575056	0.1065136	5/7/19 20:48	0.0214057	0.6410294	4.48142E+13	3.1418807	6.70217E+12	0.0155694	0.4662516	3.1418807
390	5799.99	575056	0.1065319	5/7/19 20:53	0.0214057	0.6410294	4.48142E+13	3.1424225	6.70217E+12	0.0120816	0.3618036	3.1424225
391	5792.47	575056	0.1063938	5/7/19 20:58	0.0214057	0.6410294	4.48142E+13	3.1383482	6.70217E+12	0.0121052	0.3625104	3.1383482
392	5783.99	575057	0.1071229	5/7/19 21:03	0.0187353	0.5610598	4.4444E+13	3.1598544	6.70217E+12	0.0062082	0.1859149	3.1598544
393	5798.01	575060	0.1064196	5/7/19 21:08	0.0187353	0.5610598	4.48462E+13	3.1391083	6.70217E+12	0.0101617	0.304309	3.1391083
394	5804.99	575060	0.1065477	5/7/19 21:13	0.0187353	0.5610598	4.48462E+13	3.1428873	6.70217E+12	0.0147359	0.4412911	3.1428873
395	5804.47	575060	0.1065382	5/7/19 21:18	0.0187353	0.5610598	4.48462E+13	3.1426058	6.70217E+12	0.0161425	0.4834141	3.1426058
396	5797.19	575061	0.1077196	5/7/19 21:23	0.0187353	0.5610598	4.42987E+13	3.1774565	6.70217E+12	0.0166747	0.4993517	3.1774565
397	5796.01	575062	0.1073179	5/7/19 21:28	0.0187353	0.5610598	4.44555E+13	3.1656063	6.70217E+12	0.0162576	0.4868609	3.1656063
398	5796.91	575062	0.1073346	5/7/19 21:33	0.0187353	0.5610598	4.44555E+13	3.1660978	6.70217E+12	0.0154972	0.4640895	3.1660978
399	5804.49	575063	0.1082426	5/7/19 21:38	0.0187353	0.5610598	4.41402E+13	3.1928815	6.70217E+12	0.0140195	0.4198373	3.1928815
400	5807.51	575063	0.1082989	5/7/19 21:43	0.0187353	0.5610598	4.41402E+13	3.1945427	6.70217E+12	0.0138085	0.4135185	3.1945427
401	5806.56	575064	0.107581	5/7/19 21:48	0.0187353	0.5610598	4.44275E+13	3.1733683	6.70217E+12	0.0123646	0.3702786	3.1733683
402	5797.78	575064	0.1074184	5/7/19 21:53	0.0187353	0.5610598	4.44275E+13	3.1685699	6.70217E+12	0.0135325	0.4052533	3.1685699
403	5793.65	575064	0.1073419	5/7/19 21:58	0.0187353	0.5610598	4.44275E+13	3.1663128	6.70217E+12	0.0143717	0.4303845	3.1663128
404	5778.02	575065	0.1070536	5/7/19 22:03	0.0092857	0.2780758	4.44269E+13	3.1578114	6.70217E+12	0.0159167	0.4766521	3.1578114
405	5773.43	575066	0.1052104	5/7/19 22:08	0.0092857	0.2780758	4.51693E+13	3.1034402	6.70217E+12	0.0153253	0.4589417	3.1034402
406	5779.39	575067	0.1054664	5/7/19 22:13	0.0092857	0.2780758	4.51693E+13	3.1199096	6.70217E+12	0.0139439	0.4175733	3.1199096
407	5791.59	575067	0.105689	5/7/19 22:18	0.0092857	0.2780758	4.51062E+13	3.1175577	6.70217E+12	0.0131096	0.3925888	3.1175577
408	5790.02	575067	0.1056603	5/7/19 22:23	0.0092857	0.2780758	4.51062E+13	3.1167126	6.70217E+12	0.0122573	0.3670653	3.1167126
409	5782.94	575067	0.1055311	5/7/19 22:28	0.0092857	0.2780758	4.51062E+13	3.1129015	6.70217E+12	0.0136306	0.408191	3.1129015
410	5775.43	575067	0.1053941	5/7/19 22:33	0.0092857	0.2780758	4.51062E+13	3.1088589	6.70217E+12	0.0135185	0.404834	3.1088589
411	5779.99	575068	0.1067775	5/7/19 22:38	0.0092857	0.2780758	4.4557E+13	3.1496656	6.70217E+12	0.0130395	0.3904896	3.1496656
412	5785.55	575068	0.1068802	5/7/19 22:43	0.0092857	0.2780758	4.4557E+13	3.1526954	6.70217E+12	0.0132167	0.3957961	3.1526954
413	5776.9	575070	0.1064823	5/7/19 22:48	0.0092857	0.2780758	4.46566E+13	3.1409571	6.70217E+12	0.0151927	0.4549707	3.1409571
414	5782.35	575070	0.1065827	5/7/19 22:53	0.0092857	0.2780758	4.46566E+13	3.1439203	6.70217E+12	0.0127496	0.381808	3.1439203
415	5778.56	575070	0.1065129	5/7/19 22:58	0.0092857	0.2780758	4.46566E+13	3.1418596	6.70217E+12	0.01094	0.3276165	3.1418596
416	5807.88	575077	0.1057164	5/8/19 0:03	0.010744	0.321747	4.52214E+13	3.1183659	6.70217E+12	0.0116913	0.3501155	3.1183659
417	5804.11	575077	0.1056478	5/8/19 0:08	0.010744	0.321747	4.52214E+13	3.1163417	6.70217E+12	0.0120928	0.3621391	3.1163417
418	5801.23	575078	0.1058179	5/8/19 0:13	0.010744	0.321747	4.51263E+13	3.1213604	6.70217E+12	0.0121536	0.3639598	3.1213604
419	5791.66	575078	0.1056344	5/8/19 0:18	0.010744	0.321747	4.51263E+13	3.1162113	6.70217E+12	0.0124538	0.3729498	3.1162113
420	5795.5	575078	0.1057134	5/8/19 0:23	0.010744	0.321747	4.51263E+13	3.1182774	6.70217E+12	0.0132227	0.3959758	3.1182774
421	5795.98	575079	0.1065412	5/8/19 0:28	0.010744	0.321747	4.47794E+13	3.1426942	6.70217E+12	0.0133711	0.4004199	3.1426942
422	5799.99	575081	0.102499	5/8/19 0:33	0.010744	0.321747	4.65775E+13	3.0234621	6.70217E+12	0.0173409	0.5193022	3.0234621
423	5804.41	575082	0.1023697	5/8/19 0:38	0.010744	0.321747	4.66719E+13	3.0196463	6.70217E+12	0.0172819	0.5175353	3.0196463
424	5804.82	575084	0.1015622	5/8/19 0:43	0.010744	0.321747	4.70463E+13	2.9958274	6.70217E+12	0.0175389	0.5252316	2.9958274
425	5802.49	575086	0.0989662	5/8/19 0:48	0.010744	0.321747	4.82609E+13	2.912535	6.70217E+12	0.0173835	0.5205779	2.912535
426	5795.31	575086	0.0988438	5/8/19 0:53	0.010744	0.321747	4.82609E+13	2.9156412	6.70217E+12	0.0147548	0.4418571	2.9156412
427	5799.55	575087	0.0990391	5/8/19 0:58	0.010744	0.321747	4.8201E+13	2.9214025	6.70217E+12	0.0135535	0.4058821	2.9214025
428	5810.52	575087	0.0992264	5/8/19 1:03	0.0116366	0.3484774	4.8201E+13	2.9269284	6.70217E+12	0.0126685	0.3793793	2.9269284
429	5818.01	575087	0.0993543	5/8/19 1:08	0.0116366	0.3484774	4.8201E+13	2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	5/8/19 1:13	0.0116366	0.3484774	4.86011E+13	2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431	5817.19	575090	0.0973429	5/8/19 1:18	0.0116366	0.3484774	4.91901E+13	2.8713676	6.70217E+12	0.0126278	0.3781605	2.8713676
432	5820.91	575090	0.0974051	5/8/19 1:23	0.0116366	0.3484774	4.91901E+13	2.8732038	6.70217E+12	0.0125071	0.374546	2.8732038
433	5831.99	575090	0.0975905	5/8/19 1:28	0.0116366	0.3484774	4.91901E+13	2.8786729	6.70217E+12	0.0125147	0.3747735	2.8786729
434	5837.72	575090	0.0976864	5/8/19 1:33	0.0116366	0.3484774	4.91901E+13	2.8815012	6.70217E+12	0.0030723	0.0920051	2.8815012
435	5825.57	575090	0.0974831	5/8/19 1:38	0.0116366	0.3484774	4.91901E+13	2.875504	6.70217E+12	0.0007008	0.0209866	2.875504
436	5834.9	575090	0.0976392	5/8/19 1:43	0.0116366	0.3484774	4.91901E+13	2.8801093	6.70217E+12	0.002842	0.0851084	2.8801093
437	5839.94	575090	0.0977235	5/8/19 1:49	0.0116366	0.3484774	4.91901E+13	2.882597	6.70217E+12	0.0029206	0.0874622	2.882597
438	5834.68	575090	0.0976355	5/8/19 1:54	0.0116366	0.3484774	4.91901E+13	2.8800007	6.70217E+12	0.0037273	0.1116202	2.8800007
439	5827.66	575090	0.0975181	5/8/19 1:59	0.0116366	0.3484774	4.91901E+13	2.8765356	6.70217E+12	0.0045235	0.1354637	2.8765356
440	5833.57	575090	0.097617	5/8/19 2:04	0.0119665	0.3583568	4.91901E+13	2.8794528	6.70217E+12	0.005794	0.173511	2.8794528
441	5837.02	575090	0.0976747	5/8/19 2:09	0.0119665	0.3583568	4.91901E+13	2.8811557	6.70217E+12	0.0120927	0.3621361	2.8811557
442	5834.82	575091	0.1021121	5/8/19 2:14	0.0119665	0.3583568	4.70347E+13	3.0120484	6.70217E+12	0.0138694	0.4153423	3.0120484
443	5832.01	575091	0.1020629	5/8/19 2:19	0.0119665	0.3583568	4.70347E+13	3.0105978	6.70217E+12	0.0243003	0.727713	3.0105978
444	5827.28	575091										

	A	B	C	D	E	F	G	H	I	J	K	L
471	5815.31	575106	0.1054969	5/8/19 4:39	0.0137229	0.4109551	4.53734E+13	3.1118911	6.70217E+12	0.0184185	0.5551527	3.1118911
472	5818.61	575108	0.1056718	5/8/19 4:44	0.0137229	0.4109551	4.5324E+13	3.1170516	6.70217E+12	0.0141625	0.4241197	3.1170516
473	5810.51	575108	0.1055247	5/8/19 4:49	0.0137229	0.4109551	4.5324E+13	3.1171214	6.70217E+12	0.0159072	0.4763676	3.1171214
474	5815.11	575108	0.1056083	5/8/19 4:54	0.0137229	0.4109551	4.5324E+13	3.1151766	6.70217E+12	0.0160139	0.4795629	3.1151766
475	5808.22	575109	0.1054956	5/8/19 4:59	0.0137229	0.4109551	4.53187E+13	3.1118531	6.70217E+12	0.0129169	0.3868181	3.1118531
476	5821.06	575109	0.1057288	5/8/19 5:04	0.0172785	0.5174335	4.53187E+13	3.1187323	6.70217E+12	0.0087613	0.2623717	3.1187323
477	5830.24	575109	0.1058956	5/8/19 5:09	0.0172785	0.5174335	4.53187E+13	3.1236507	6.70217E+12	0.0125147	0.3747735	3.1236507
478	5816.12	575110	0.1063653	5/8/19 5:14	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0158514	0.4746966	3.1375074
479	5816.12	575110	0.1063653	5/8/19 5:19	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0145818	0.4366763	3.1375074
480	5811.28	575111	0.1058572	5/8/19 5:24	0.0172785	0.5174335	4.51877E+13	3.1225197	6.70217E+12	0.0159657	0.4781195	3.1225197
481	5814.19	575113	0.1054793	5/8/19 5:29	0.0172785	0.5174335	4.53722E+13	3.1113735	6.70217E+12	0.0189354	0.5670521	3.1113735
482	5822.89	575113	0.1056372	5/8/19 5:34	0.0172785	0.5174335	4.53722E+13	3.1160292	6.70217E+12	0.0168377	0.504233	3.1160292
483	5825.26	575113	0.1056863	5/8/19 5:39	0.0172785	0.5174335	4.53722E+13	3.1174794	6.70217E+12	0.0142709	0.4273659	3.1174794
484	5825.47	575114	0.1057728	5/8/19 5:44	0.0172785	0.5174335	4.53341E+13	3.1200304	6.70217E+12	0.0162737	0.4873431	3.1200304
485	5830.59	575114	0.1058658	5/8/19 5:49	0.0172785	0.5174335	4.53341E+13	3.1227726	6.70217E+12	0.016296	0.4880109	3.1227726
486	5839.34	575114	0.1060247	5/8/19 5:54	0.0172785	0.5174335	4.53341E+13	3.127459	6.70217E+12	0.0078999	0.2365757	3.127459
487	5838.51	575115	0.1055129	5/8/19 5:59	0.0172785	0.5174335	4.55475E+13	3.1123637	6.70217E+12	0.0157437	0.4714713	3.1123637
488	5829.09	575117	0.1054774	5/8/19 6:04	0.0211899	0.6345669	4.54893E+13	3.1113164	6.70217E+12	0.015334	0.4592022	3.1113164
489	5826.85	575117	0.1054369	5/8/19 6:09	0.0211899	0.6345669	4.54893E+13	3.1101208	6.70217E+12	0.0095667	0.2864908	3.1101208
490	5838.53	575118	0.105587	5/8/19 6:14	0.0211899	0.6345669	4.55157E+13	3.1145494	6.70217E+12	0.0126575	0.3790499	3.1145494
491	5843.74	575119	0.1054459	5/8/19 6:19	0.0211899	0.6345669	4.56173E+13	3.1103869	6.70217E+12	0.0159603	0.4779578	3.1103869
492	5843.03	575119	0.1054331	5/8/19 6:24	0.0211899	0.6345669	4.56173E+13	3.110009	6.70217E+12	0.0169939	0.5089107	3.110009
493	5842.51	575119	0.1054237	5/8/19 6:29	0.0211899	0.6345669	4.56173E+13	3.1097323	6.70217E+12	0.0176305	0.5279747	3.1097323
494	5859.77	575120	0.1055662	5/8/19 6:34	0.0211899	0.6345669	4.56903E+13	3.1139353	6.70217E+12	0.0182108	0.5453528	3.1139353
495	5849.16	575120	0.1053751	5/8/19 6:39	0.0211899	0.6345669	4.56903E+13	3.1082971	6.70217E+12	0.0222873	0.6674303	3.1082971
496	5859.91	575120	0.1055687	5/8/19 6:44	0.0211899	0.6345669	4.56903E+13	3.1140097	6.70217E+12	0.0240313	0.7196573	3.1140097
497	5874.94	575120	0.1058395	5/8/19 6:49	0.0211899	0.6345669	4.56903E+13	3.1219968	6.70217E+12	0.0247785	0.7420335	3.1219968
498	5849.77	575122	0.1058251	5/8/19 6:54	0.0211899	0.6345669	4.55007E+13	3.1215733	6.70217E+12	0.035146	1.0525055	3.1215733
499	5847.52	575123	0.1059851	5/8/19 6:59	0.0211899	0.6345669	4.54146E+13	3.1262913	6.70217E+12	0.0331317	0.992184	3.1262913
500	5858.74	575123	0.1061884	5/8/19 7:04	0.0245969	0.7365952	4.54146E+13	3.1225899	6.70217E+12	0.0225584	0.6755489	3.1225899
501	5868.24	575124	0.1046351	5/8/19 7:09	0.0245969	0.7365952	4.61635E+13	3.0864695	6.70217E+12	0.0227738	0.6819994	3.0864695
502	5860.28	575124	0.1044931	5/8/19 7:14	0.0245969	0.7365952	4.61635E+13	3.0822829	6.70217E+12	0.0189208	0.5666149	3.0822829
503	5864.03	575124	0.10456	5/8/19 7:19	0.0245969	0.7365952	4.61635E+13	3.0842552	6.70217E+12	0.0206953	0.6197553	3.0842552
504	5860.24	575125	0.1049602	5/8/19 7:24	0.0245969	0.7365952	4.59578E+13	3.0960609	6.70217E+12	0.0230157	0.6892435	3.0960609
505	5855.35	575125	0.1048726	5/8/19 7:29	0.0245969	0.7365952	4.59578E+13	3.0934774	6.70217E+12	0.0225888	0.6764593	3.0934774
506	5861.24	575125	0.1049781	5/8/19 7:34	0.0245969	0.7365952	4.59578E+13	3.0965892	6.70217E+12	0.0205788	0.6162665	3.0965892
507	5864.22	575125	0.1050315	5/8/19 7:39	0.0245969	0.7365952	4.59578E+13	3.0981636	6.70217E+12	0.0197214	0.5905902	3.0981636
508	5855.4	575125	0.1048735	5/8/19 7:44	0.0245969	0.7365952	4.59578E+13	3.0935039	6.70217E+12	0.0198359	0.5940191	3.0935039
509	5848.68	575126	0.102448	5/8/19 7:49	0.0245969	0.7365952	4.69919E+13	3.0219576	6.70217E+12	0.0296779	0.8887542	3.0219576
510	5843.55	575127	0.1024751	5/8/19 7:54	0.0245969	0.7365952	4.69382E+13	3.0227572	6.70217E+12	0.0208223	0.6235585	3.0227572
511	5851.77	575127	0.1026193	5/8/19 7:59	0.0245969	0.7365952	4.69382E+13	3.0270092	6.70217E+12	0.0230156	0.6892405	3.0270092
512	5849.49	575127	0.1025793	5/8/19 8:04	0.0242095	0.7249938	4.69382E+13	3.0258298	6.70217E+12	0.0232039	0.6948795	3.0258298
513	5849.48	575129	0.1024537	5/8/19 8:09	0.0242095	0.7249938	4.69957E+13	3.0221242	6.70217E+12	0.0199092	0.5962142	3.0221242
514	5848.2	575130	0.1023337	5/8/19 8:14	0.0242095	0.7249938	4.70405E+13	3.0185855	6.70217E+12	0.0193885	0.5806209	3.0185855
515	5833.78	575131	0.1018159	5/8/19 8:19	0.0242095	0.7249938	4.71632E+13	3.0033105	6.70217E+12	0.0228642	0.6847066	3.0033105
516	5845.68	575131	0.1020236	5/8/19 8:24	0.0242095	0.7249938	4.71632E+13	3.0094368	6.70217E+12	0.0197323	0.5909166	3.0094368
517	5850.11	575133	0.1010354	5/8/19 8:29	0.0242095	0.7249938	4.76518E+13	2.9808362	6.70217E+12	0.0210194	0.629461	2.9808362
518	5849.94	575134	0.101143	5/8/19 8:34	0.0242095	0.7249938	4.76084E+13	2.9834634	6.70217E+12	0.0253845	0.7601812	2.9834634
519	5844.18	575135	0.1003625	5/8/19 8:39	0.0242095	0.7249938	4.79315E+13	2.9604385	6.70217E+12	0.0187378	0.5611347	2.9604385
520	5844.99	575136	0.1007176	5/8/19 8:45	0.0242095	0.7249938	4.77691E+13	2.9709144	6.70217E+12	0.0201853	0.6044825	2.9709144
521	5856.45	575136	0.1009151	5/8/19 8:50	0.0242095	0.7249938	4.77691E+13	2.9767393	6.70217E+12	0.0212258	0.635642	2.9767393
522	5861.07	575136	0.1009947	5/8/19 8:55	0.0242095	0.7249938	4.77691E+13	2.9790876	6.70217E+12	0.0203371	0.6090284	2.9790876
523	5859.02	575136	0.1009594	5/8/19 9:00	0.0244939	0.7335107	4.77691E+13	2.9780456	6.70217E+12	0.0193291	0.5788421	2.9780456
524	5865.61	575136	0.1010729	5/8/19 9:05	0.0244939	0.7335107	4.77691E+13	2.9813952	6.70217E+12	0.0272511	0.8160796	2.9813952
525	5854.26	575136	0.1008773	5/8/19 9:10	0.0244939	0.7335107	4.77691E+13	2.9756262	6.70217E+12	0.0236817	0.709188	2.9756262
526	5831.3	575137	0.1018101	5/8/19 9:15	0.0244939	0.7335107	4.71458E+13	3.0031404	6.70217E+12	0.0214969	0.64376289	3.0031404
527	5839.16	575137	0.1019473	5/8/19 9:20	0.0244939	0.7335107	4.71458E+13	3.0071883	6.70217E+12	0.0214921	0.64364101	3.0071883
528	5843.2	575137	0.1020179	5/8/19 9:25	0.0244939	0.7335107	4.71458E+13	3.0092689	6.70217E+12	0.0275293	0.8244108	3.0092689
529	5841.15	575137	0.1019821	5/8/19 9:30	0.0244939	0.7335107	4.71458E+13	3.0082132	6.70217E+12	0.0429576	1.2864369	3.0082132
530	5849.05	575139	0.1011946	5/8/19 9:35	0.0244939	0.7335107	4.7577E+13	2.9849829	6.70217E+12	0.0232529	0.6963468	2.9849829
531	5857.36	575140	0.0999202	5/8/19 9:40	0.0244939	0.7335107	4.82522E+13	2.947394	6.70217E+12	0.0229391	0.6869496	2.947394
532	5857.91	575140	0.0999296	5/8/19 9:45	0.0244939	0.7335107	4.82522E+13	2.9476708	6.70217E+12	0.0235124	0.704118	2.9476708
533	5864.03	575140	0.100034	5/8/19 9:50	0.0244939	0.7335107	4.82522E+13	2.9507504	6.70217E+12	0.0259313	0.776556	2.9507504
534	5868.53	575142	0.0972217	5/8/19 9:55	0.0244939	0.7335107	4.96861E+13	2.8677931	6.70217E+12	0.0202099	0.6052191	2.8677931
535	5857.64	575143	0.0964425	5/8/19 10:00	0.0273545	0.8191761	4.99946E+13	2.8448083	6.70217E+12	0.018816	0.5634765	2.8448083
536	5866.7	575143	0.0965916	5/8/19 10:05	0.0273545	0.8191761	4.99946E+13	2.8492083	6.70217E+12	0.0166105	0.4974291	2.8492083
537	5863.82	575143	0.0965442	5/8/19 10:10	0.0273545	0.8191761	4.99946E+13	2.8478096	6.70217E+12	0.0189675	0.5680134	2.8478096
538	5866.01	575143	0.0									

	A	B	C	D	E	F	G	H	I	J	K	L
565	5886.52	575156	0.0934827	5/8/19 12:31	0.026371	0.7897235	5.18317E+13	2.7575042	6.70217E+12	0.0246938	0.739497	2.7575042
566	5883.25	575156	0.0934308	5/8/19 12:36	0.026371	0.7897235	5.18317E+13	2.7559724	6.70217E+12	0.0239477	0.7171538	2.7559724
567	5880.8	575156	0.0933919	5/8/19 12:41	0.026371	0.7897235	5.18317E+13	2.7548247	6.70217E+12	0.0215346	0.6448895	2.7548247
568	5886.84	575157	0.0931778	5/8/19 12:46	0.026371	0.7897235	5.20042E+13	2.7485095	6.70217E+12	0.0215175	0.6443774	2.7485095
569	5887.77	575157	0.0931925	5/8/19 12:51	0.026371	0.7897235	5.20042E+13	2.7489437	6.70217E+12	0.0210953	0.6317339	2.7489437
570	5886.14	575159	0.0936745	5/8/19 12:56	0.026371	0.7897235	5.17223E+13	2.7631598	6.70217E+12	0.0221968	0.6647202	2.7631598
571	5880.23	575159	0.0935804	5/8/19 13:01	0.0224056	0.670973	5.17223E+13	2.7603855	6.70217E+12	0.0220558	0.6604977	2.7603855
572	5884.79	575159	0.093635	5/8/19 13:06	0.0224056	0.670973	5.17223E+13	2.7625261	6.70217E+12	0.0232481	0.6962031	2.7625261
573	5887.12	575159	0.0936901	5/8/19 13:11	0.0224056	0.670973	5.17223E+13	2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
574	5882.83	575159	0.0936218	5/8/19 13:16	0.0224056	0.670973	5.17223E+13	2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
575	5887.05	575160	0.095298	5/8/19 13:21	0.0224056	0.670973	5.0849E+13	2.8110496	6.70217E+12	0.0210217	0.6295298	2.8110496
576	5885.01	575161	0.0954767	5/8/19 13:26	0.0224056	0.670973	5.07362E+13	2.8163217	6.70217E+12	0.0209618	0.627736	2.8163217
577	5877.03	575161	0.0953473	5/8/19 13:31	0.0224056	0.670973	5.07362E+13	2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
578	5864.5	575163	0.0928787	5/8/19 13:36	0.0224056	0.670973	5.19737E+13	2.7396868	6.70217E+12	0.0197032	0.5900452	2.7396868
579	5878.37	575163	0.0930984	5/8/19 13:41	0.0224056	0.670973	5.19737E+13	2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
580	5884.42	575163	0.0931942	5/8/19 13:46	0.0224056	0.670973	5.19737E+13	2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
581	5882.28	575163	0.0931603	5/8/19 13:51	0.0224056	0.670973	5.19737E+13	2.747993	6.70217E+12	0.0286405	0.8576875	2.747993
582	5884.83	575163	0.0932007	5/8/19 13:56	0.0224056	0.670973	5.19737E+13	2.7491843	6.70217E+12	0.0262751	0.7868517	2.7491843
583	5884.52	575164	0.0946934	5/8/19 14:01	0.0200678	0.6009637	5.11517E+13	2.793214	6.70217E+12	0.0271666	0.8135311	2.793214
584	5879.67	575164	0.0946153	5/8/19 14:06	0.0200678	0.6009637	5.11517E+13	2.7909119	6.70217E+12	0.0243166	0.7282011	2.7909119
585	5877.49	575164	0.0945802	5/8/19 14:11	0.0200678	0.6009637	5.11517E+13	2.7898771	6.70217E+12	0.0208701	0.6249899	2.7898771
586	5887.28	575166	0.0950829	5/8/19 14:16	0.0200678	0.6009637	5.0966E+13	2.8047039	6.70217E+12	0.0218292	0.6537118	2.8047039
587	5884.05	575166	0.0950307	5/8/19 14:21	0.0200678	0.6009637	5.0966E+13	2.8031651	6.70217E+12	0.0217633	0.6517383	2.8031651
588	5885.12	575166	0.0950408	5/8/19 14:26	0.0200678	0.6009637	5.0966E+13	2.8036749	6.70217E+12	0.0217781	0.6521815	2.8036749
589	5902.91	575167	0.0961455	5/8/19 14:31	0.0200678	0.6009637	5.05365E+13	2.836049	6.70217E+12	0.021451	0.6423859	2.836049
590	5902.72	575167	0.0961424	5/8/19 14:36	0.0200678	0.6009637	5.05365E+13	2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
591	5906.61	575167	0.0962058	5/8/19 14:41	0.0200678	0.6009637	5.05365E+13	2.8378267	6.70217E+12	0.0426523	1.2772942	2.8378267
592	5912.28	575167	0.0962981	5/8/19 14:46	0.0200678	0.6009637	5.05365E+13	2.8405508	6.70217E+12	0.1999116	5.986686	5.986686
593	5908.65	575170	0.095031	5/8/19 14:51	0.0200678	0.6009637	5.1179E+13	2.8031727	6.70217E+12	0.2670565	7.997452	7.997452
594	5900.02	575170	0.0948922	5/8/19 14:56	0.0200678	0.6009637	5.1179E+13	2.7909785	6.70217E+12	0.0299601	0.8972051	2.7909785
595	5884.23	575171	0.0950701	5/8/19 15:01	0.0170556	0.5107584	5.09465E+13	2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
596	5890.02	575171	0.0951636	5/8/19 15:06	0.0170556	0.5107584	5.09465E+13	2.8070857	6.70217E+12	0.0254303	0.7615527	2.8070857
597	5890.65	575171	0.0951738	5/8/19 15:11	0.0170556	0.5107584	5.09465E+13	2.8073859	6.70217E+12	0.0264722	0.7927541	2.8073859
598	5868.34	575171	0.0948133	5/8/19 15:16	0.0170556	0.5107584	5.09465E+13	2.7967533	6.70217E+12	0.0232906	0.6974758	2.7967533
599	5883.01	575172	0.0962041	5/8/19 15:21	0.0170556	0.5107584	5.03355E+13	2.837777	6.70217E+12	0.0222239	0.6655317	2.837777
600	5877.22	575172	0.0961094	5/8/19 15:26	0.0170556	0.5107584	5.03355E+13	2.8349841	6.70217E+12	0.021497	0.6437635	2.8349841
601	5882.35	575173	0.0955836	5/8/19 15:31	0.0170556	0.5107584	5.06566E+13	2.8194728	6.70217E+12	0.0233908	0.7004765	2.8194728
602	5895.23	575174	0.0960485	5/8/19 15:36	0.0170556	0.5107584	5.05218E+13	2.8331879	6.70217E+12	0.0260191	0.7791853	2.8331879
603	5891.02	575174	0.0959799	5/8/19 15:41	0.0170556	0.5107584	5.05218E+13	2.8311646	6.70217E+12	0.0204508	0.6124333	2.8311646
604	5895.3	575174	0.0960497	5/8/19 15:46	0.0170556	0.5107584	5.05218E+13	2.8332215	6.70217E+12	0.0203869	0.6105197	2.8332215
605	5898.69	575174	0.0961049	5/8/19 15:51	0.0170556	0.5107584	5.05218E+13	2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
606	5898.34	575175	0.0970802	5/8/19 15:56	0.0170556	0.5107584	5.00112E+13	2.863621	6.70217E+12	0.0209194	0.6264663	2.863621
607	5900.14	575176	0.0971661	5/8/19 16:01	0.0174326	0.5220483	4.99823E+13	2.8661537	6.70217E+12	0.0209977	0.6288111	2.8661537
608	5891.31	575176	0.0970207	5/8/19 16:06	0.0174326	0.5220483	4.99823E+13	2.8618643	6.70217E+12	0.0203367	0.6090164	2.8618643
609	5893.65	575176	0.0970592	5/8/19 16:11	0.0174326	0.5220483	4.99823E+13	2.863001	6.70217E+12	0.0213506	0.6393793	2.863001
610	5892.53	575177	0.0969298	5/8/19 16:16	0.0174326	0.5220483	5.00395E+13	2.8591849	6.70217E+12	0.0261533	0.7832042	2.8591849
611	5894.16	575177	0.0969567	5/8/19 16:21	0.0174326	0.5220483	5.00395E+13	2.8599758	6.70217E+12	0.0258626	0.7744987	2.8599758
612	5895.84	575178	0.097466	5/8/19 16:26	0.0174326	0.5220483	4.97004E+13	2.88031	6.70217E+12	0.0215949	0.6466953	2.88031
613	5896.89	575179	0.0980892	5/8/19 16:31	0.0174326	0.5220483	4.94846E+13	2.8933819	6.70217E+12	0.0198411	0.5941748	2.8933819
614	5902.19	575180	0.0983841	5/8/19 16:36	0.0174326	0.5220483	4.93807E+13	2.9020809	6.70217E+12	0.0207134	0.6202973	2.9020809
615	5905.9	575181	0.097534	5/8/19 16:41	0.0174326	0.5220483	4.98424E+13	2.8770052	6.70217E+12	0.0223016	0.6678586	2.8770052
616	5906.84	575181	0.0975495	5/8/19 16:46	0.0174326	0.5220483	4.98424E+13	2.8774631	6.70217E+12	0.0254538	0.7622565	2.8774631
617	5904.42	575181	0.0975095	5/8/19 16:51	0.0174326	0.5220483	4.98424E+13	2.8762842	6.70217E+12	0.025079	0.7510325	2.8762842
618	5903.02	575181	0.0974864	5/8/19 16:56	0.0174326	0.5220483	4.98424E+13	2.8756022	6.70217E+12	0.0246071	0.7369006	2.8756022
619	5894.63	575182	0.0989154	5/8/19 17:01	0.0174032	0.5211678	4.90525E+13	2.9177544	6.70217E+12	0.0226389	0.6779596	2.9177544
620	5898.06	575182	0.098973	5/8/19 17:06	0.0174032	0.5211678	4.90525E+13	2.9194522	6.70217E+12	0.0256642	0.7685572	2.9194522
621	5891.22	575182	0.0988582	5/8/19 17:11	0.0174032	0.5211678	4.90525E+13	2.9160665	6.70217E+12	0.0384273	1.1507695	2.9160665
622	5888.49	575182	0.0988124	5/8/19 17:16	0.0174032	0.5211678	4.90525E+13	2.9147151	6.70217E+12	0.0364449	1.0914033	2.9147151
623	5895.57	575183	0.0996828	5/8/19 17:21	0.0174032	0.5211678	4.86826E+13	2.9403898	6.70217E+12	0.0191003	0.5719903	2.9403898
624	5896.91	575183	0.0997054	5/8/19 17:26	0.0174032	0.5211678	4.86826E+13	2.9410582	6.70217E+12	0.0230176	0.6893004	2.9410582
625	5918.72	575183	0.1000742	5/8/19 17:31	0.0174032	0.5211678	4.86826E+13	2.9519358	6.70217E+12	0.0030289	0.0907055	2.9519358
626	5926.18	575183	0.1002003	5/8/19 17:36	0.0174032	0.5211678	4.86826E+13	2.9556564	6.70217E+12	0.0439309	1.315584	2.9556564
627	5934.97	575183	0.100349	5/8/19 17:41	0.0174032	0.5211678	4.86826E+13	2.9600404	6.70217E+12	0.0408583	1.2235699	2.9600404
628	5944.99	575185	0.100551	5/8/19 17:46	0.0174032	0.5211678	4.8669E+13	2.9659989	6.70217E+12	0.0170991	0.512061	2.9659989
629	5940.01	575185	0.1004667	5/8/19 17:51	0.0174032	0.5211678	4.8669E+13	2.9635144	6.70217E+12	0.0183967	0.5509198	2.9635144
630	5931.52	575186	0.1008871	5/8/19 17:56	0.0174032	0.5211678	4.83948E+13	2.9759139	6.70217E+12	0.0163528	0.4897119	2.9759139
631	5938.6	575188	0.0986457	5/8/19 18:01	0.0165475	0.4955425	4.95535E+13	2.9097985	6.70217E+12	0.0185884	0.5566606	2.9097985
632	59											

	A	B	C	D	E	F	G	H	I	J	K	L
659	6053.32	575199	0.1035905	5/8/19 20:22	0.013261	0.3971227	4.80997E+13	3.0556586	6.70217E+12	0.0163585	0.4898825	3.0556586
660	6041.03	575200	0.1032464	5/8/19 20:27	0.013261	0.3971227	4.8162E+13	3.0455058	6.70217E+12	0.0188459	0.5643719	3.0455058
661	6030.66	575202	0.1032473	5/8/19 20:32	0.013261	0.3971227	4.80789E+13	3.0455341	6.70217E+12	0.0134602	0.4030881	3.0455341
662	6043.34	575204	0.1032455	5/8/19 20:37	0.013261	0.3971227	4.81808E+13	3.0454809	6.70217E+12	0.0164743	0.4933504	3.0454809
663	6042.19	575204	0.1032259	5/8/19 20:42	0.013261	0.3971227	4.81808E+13	3.0449014	6.70217E+12	0.0147002	0.4402222	3.0449014
664	6049.96	575204	0.1033586	5/8/19 20:47	0.013261	0.3971227	4.81808E+13	3.048817	6.70217E+12	0.0148678	0.4452411	3.048817
665	6051.76	575205	0.1040715	5/8/19 20:52	0.013261	0.3971227	4.7865E+13	3.0698443	6.70217E+12	0.0130545	0.3909388	3.0698443
666	6054.77	575206	0.1045618	5/8/19 20:57	0.013261	0.3971227	4.76643E+13	3.084309	6.70217E+12	0.0122348	0.3663915	3.084309
667	6045.31	575206	0.1043985	5/8/19 21:02	0.0057558	0.172367	4.76643E+13	3.0794901	6.70217E+12	0.0113115	0.3387417	3.0794901
668	6042.99	575207	0.1043195	5/8/19 21:07	0.0057558	0.172367	4.7682E+13	3.0771614	6.70217E+12	0.0064092	0.1919342	3.0771614
669	6038.47	575207	0.1042415	5/8/19 21:12	0.0057558	0.172367	4.7682E+13	3.0748598	6.70217E+12	0.0050076	0.1499609	3.0748598
670	6046.62	575207	0.1043822	5/8/19 21:17	0.0057558	0.172367	4.7682E+13	3.0790099	6.70217E+12	-0.0026668	-0.0798618	3.0790099
671	6044.8	575207	0.1043508	5/8/19 21:22	0.0057558	0.172367	4.7682E+13	3.0780831	6.70217E+12	0.0105849	0.3169825	3.0780831
672	6048.33	575207	0.1044117	5/8/19 21:27	0.0057558	0.172367	4.7682E+13	3.0788806	6.70217E+12	0.0086089	0.2578079	3.0788806
673	6052.87	575208	0.1057954	5/8/19 21:32	0.0057558	0.172367	4.70937E+13	3.1206959	6.70217E+12	0.0018	0.053904	3.1206959
674	6056.61	575210	0.1055202	5/8/19 21:37	0.0057558	0.172367	4.72457E+13	3.1125773	6.70217E+12	-0.0021614	-0.0647267	3.1125773
675	6059.99	575212	0.0995054	5/8/19 21:42	0.0057558	0.172367	5.01295E+13	2.9351584	6.70217E+12	-0.0034416	-0.1030644	2.9351584
676	6049.69	575213	0.0988159	5/8/19 21:47	0.0057558	0.172367	5.03935E+13	2.9148188	6.70217E+12	-0.0015146	-0.0453572	2.9148188
677	6056.42	575214	0.0996142	5/8/19 21:52	0.0057558	0.172367	5.00453E+13	2.9383674	6.70217E+12	-0.0023178	-0.0694104	2.9383674
678	6045.27	575214	0.0994308	5/8/19 21:57	0.0057558	0.172367	5.00453E+13	2.9329578	6.70217E+12	0.0029429	0.08813	2.9329578
679	6041.19	575214	0.0993637	5/8/19 22:02	-0.0039885	-0.1194423	5.00453E+13	2.9309783	6.70217E+12	0.0028846	0.0863842	2.9309783
680	6033.23	575215	0.0986577	5/8/19 22:07	-0.0039885	-0.1194423	5.0337E+13	2.9101535	6.70217E+12	-0.0021717	-0.0650352	2.9101535
681	6034.99	575215	0.0986865	5/8/19 22:12	-0.0039885	-0.1194423	5.0337E+13	2.9110025	6.70217E+12	0.0094236	0.2822054	2.9110025
682	6042.83	575215	0.0988147	5/8/19 22:17	-0.0039885	-0.1194423	5.0337E+13	2.9147841	6.70217E+12	-0.0117128	-0.3507593	2.9147841
683	6033.48	575216	0.0981874	5/8/19 22:22	-0.0039885	-0.1194423	5.05802E+13	2.8962791	6.70217E+12	-0.0071632	-0.214514	2.8962791
684	6028.01	575217	0.0985494	5/8/19 22:27	-0.0039885	-0.1194423	5.03487E+13	2.9069577	6.70217E+12	-0.0043047	-0.1289114	2.9069577
685	6027.43	575217	0.0985399	5/8/19 22:32	-0.0039885	-0.1194423	5.03487E+13	2.906678	6.70217E+12	-0.0026014	-0.0779033	2.906678
686	6029.94	575217	0.098581	5/8/19 22:37	-0.0039885	-0.1194423	5.03487E+13	2.9078884	6.70217E+12	-0.0017683	-0.0529547	2.9078884
687	6039.16	575219	0.0983331	5/8/19 22:42	-0.0039885	-0.1194423	5.05528E+13	2.9005763	6.70217E+12	-0.0018002	-0.05391	2.9005763
688	6039.06	575221	0.0975716	5/8/19 22:47	-0.0039885	-0.1194423	5.09465E+13	2.8781157	6.70217E+12	0.0035525	0.1063855	2.8781157
689	6035.97	575221	0.0975217	5/8/19 22:52	-0.0039885	-0.1194423	5.09465E+13	2.876643	6.70217E+12	-0.0028608	-0.0856714	2.876643
690	6041.91	575222	0.0971472	5/8/19 22:57	-0.0039885	-0.1194423	5.1179E+13	2.8663937	6.70217E+12	-0.0044334	-0.1327656	2.8663937
691	6066.64	575224	0.1014592	5/9/19 0:02	-0.0060127	-0.1800603	4.92181E+13	2.9927906	6.70217E+12	-0.0145142	-0.4346519	2.9927906
692	6072.36	575225	0.1021048	5/9/19 0:07	-0.0060127	-0.1800603	4.89531E+13	3.0118316	6.70217E+12	-0.0130235	-0.3900104	3.0118316
693	6068.07	575225	0.1020326	5/9/19 0:12	-0.0060127	-0.1800603	4.89531E+13	3.0097038	6.70217E+12	-0.0286682	-0.858517	3.0097038
694	6076.08	575225	0.1021673	5/9/19 0:17	-0.0060127	-0.1800603	4.89531E+13	3.0136767	6.70217E+12	-0.0231556	-0.693433	3.0136767
695	6077.05	575225	0.1021836	5/9/19 0:22	-0.0060127	-0.1800603	4.89531E+13	3.0141578	6.70217E+12	-0.0015472	-0.0463335	3.0141578
696	6056.56	575225	0.1018391	5/9/19 0:27	-0.0060127	-0.1800603	4.89531E+13	3.003995	6.70217E+12	-0.0012057	-0.0361067	3.003995
697	6053.34	575225	0.1017849	5/9/19 0:37	-0.0060127	-0.1800603	4.89531E+13	3.0023979	6.70217E+12	-0.0181456	-0.5434002	3.0023979
698	6047.02	575227	0.1035951	5/9/19 0:42	-0.0060127	-0.1800603	4.80475E+13	3.0557938	6.70217E+12	-0.0191353	-0.5730385	3.0557938
699	6061.52	575227	0.1038435	5/9/19 0:47	-0.0060127	-0.1800603	4.80475E+13	3.0631212	6.70217E+12	-0.0107209	-0.3210552	3.0631212
700	6050.01	575229	0.103384	5/9/19 0:52	-0.0060127	-0.1800603	4.81694E+13	3.0495651	6.70217E+12	0.0010001	0.0299497	3.0495651
701	6044.15	575229	0.1032838	5/9/19 0:57	-0.0060127	-0.1800603	4.81694E+13	3.0466114	6.70217E+12	-0.0040798	-0.1221764	3.0466114
702	6044.76	575229	0.1032943	5/9/19 1:02	-0.0084514	-0.2530913	4.81694E+13	3.0469188	6.70217E+12	-0.0033111	-0.0991564	3.0469188
703	6039.56	575229	0.1032054	5/9/19 1:07	-0.0084514	-0.2530913	4.81694E+13	3.0442977	6.70217E+12	-0.0031204	-0.0934456	3.0442977
704	6042.9	575231	0.1030119	5/9/19 1:12	-0.0084514	-0.2530913	4.82866E+13	3.0385906	6.70217E+12	-0.0012951	-0.0387839	3.0385906
705	6042.77	575232	0.1030817	5/9/19 1:17	-0.0084514	-0.2530913	4.82528E+13	3.0406489	6.70217E+12	-0.0005672	-0.0169857	3.0406489
706	6053.94	575233	0.1033545	5/9/19 1:22	-0.0084514	-0.2530913	4.82145E+13	3.0486951	6.70217E+12	-0.0121807	-0.3647714	3.0486951
707	6056.93	575233	0.1034055	5/9/19 1:27	-0.0084514	-0.2530913	4.82145E+13	3.0502008	6.70217E+12	-0.0149888	-0.4488646	3.0502008
708	6055.69	575233	0.1033843	5/9/19 1:32	-0.0084514	-0.2530913	4.82145E+13	3.0495763	6.70217E+12	-0.0147726	-0.4423901	3.0495763
709	6058.16	575233	0.1034265	5/9/19 1:37	-0.0084514	-0.2530913	4.82145E+13	3.0508202	6.70217E+12	-0.0157309	-0.471088	3.0508202
710	6059.3	575234	0.1038084	5/9/19 1:42	-0.0084514	-0.2530913	4.80461E+13	3.0620845	6.70217E+12	-0.0227758	-0.6820593	3.0620845
711	6061.34	575235	0.1031342	5/9/19 1:47	-0.0084514	-0.2530913	4.83765E+13	3.0421965	6.70217E+12	-0.0265233	-0.7942844	3.0421965
712	6073.89	575235	0.1033477	5/9/19 1:52	-0.0084514	-0.2530913	4.83765E+13	3.0484953	6.70217E+12	-0.0258125	-0.7729983	3.0484953
713	6070.6	575236	0.1036534	5/9/19 1:57	-0.0084514	-0.2530913	4.82077E+13	3.0575115	6.70217E+12	-0.0270166	-0.8090571	3.0575115
714	6070.34	575237	0.1039744	5/9/19 2:02	-0.009959	-0.2982389	4.80568E+13	3.0669809	6.70217E+12	-0.0241909	-0.7244368	3.0669809
715	6070.64	575238	0.1033994	5/9/19 2:07	-0.009959	-0.2982389	4.83264E+13	3.0500217	6.70217E+12	-0.0192845	-0.5775065	3.0500217
716	6066.1	575238	0.1033221	5/9/19 2:12	-0.009959	-0.2982389	4.83264E+13	3.0477407	6.70217E+12	-0.0253576	-0.7593756	3.0477407
717	6051.34	575238	0.1030707	5/9/19 2:17	-0.009959	-0.2982389	4.83264E+13	3.040325	6.70217E+12	-0.0277084	-0.8297742	3.040325
718	6061.78	575239	0.1040791	5/9/19 2:22	-0.009959	-0.2982389	4.79408E+13	3.0700698	6.70217E+12	-0.0259793	-0.7779934	3.0700698
719	6063.51	575239	0.1041088	5/9/19 2:27	-0.009959	-0.2982389	4.79408E+13	3.070946	6.70217E+12	-0.0268247	-0.8033103	3.070946
720	6069.07	575240	0.1042563	5/9/19 2:32	-0.009959	-0.2982389	4.79168E+13	3.0752977	6.70217E+12	-0.0240329	-0.7197052	3.0752977
721	6065.45	575242	0.1026794	5/9/19 2:37	-0.009959	-0.2982389	4.86237E+13	3.0278732	6.70217E+12	-0.0250565	-0.7503587	3.0278732
722	6056.78	575242	0.1025327	5/9/19 2:43	-0.009959	-0.2982389	4.86237E+13	3.0244539	6.70217E+12	-0.0183811	-0.5504527	3.0244539
723	6054.89	575242	0.1025007	5/9/19 2:48	-0.009959	-0.2982389	4.86237E+13	3.0235101	6.70217E+12	-0.0211004	-0.6318866	3.0235101
724	6052.82	575243	0.1032503	5/9/19 2:53	-0.009959	-0.2982389	4.82542E+13	3.0456209	6.70217E+12	-0.0280966	-0.8413995	3.0456209
725	6054.43	575243	0.1032777	5/9/19 2:58	-0.009959	-0.2982389	4.82542E+13	3.046341	6.70217E+12	-0.0255341	-0.7646612	3.046341
726	6054.32	575244	0.1033884	5/9/19 3								

	A	B	C	D	E	F	G	H	I	J	K	L
753	6048.3	575258	0.1017896	5/9/19 5:18	-0.001004	-0.0300665	4.89101E+13	3.0025339	6.70217E+12	-0.0245437	-0.735002	3.0025339
754	6051.14	575258	0.1018373	5/9/19 5:23	-0.001004	-0.0300665	4.89101E+13	3.0039438	6.70217E+12	-0.0272051	-0.8147021	3.0039438
755	6057.19	575258	0.1019392	5/9/19 5:28	-0.001004	-0.0300665	4.89101E+13	3.0069471	6.70217E+12	-0.026005	-0.7787631	3.0069471
756	6059.15	575259	0.1040181	5/9/19 5:33	-0.001004	-0.0300665	4.79481E+13	3.0682693	6.70217E+12	-0.0148258	-0.4439833	3.0682693
757	6061.72	575260	0.1037848	5/9/19 5:38	-0.001004	-0.0300665	4.80762E+13	3.0613901	6.70217E+12	-0.0244808	-0.7331184	3.0613901
758	6057.72	575260	0.1037164	5/9/19 5:43	-0.001004	-0.0300665	4.80762E+13	3.05937	6.70217E+12	-0.0243887	-0.7303603	3.05937
759	6057.7	575260	0.103716	5/9/19 5:48	-0.001004	-0.0300665	4.80762E+13	3.0593599	6.70217E+12	-0.0198852	-0.5954955	3.0593599
760	6047.35	575260	0.1035388	5/9/19 5:53	-0.001004	-0.0300665	4.80762E+13	3.0541327	6.70217E+12	-0.0198875	-0.5955643	3.0541327
761	6044.98	575261	0.1039808	5/9/19 5:58	-0.001004	-0.0300665	4.78531E+13	3.0671699	6.70217E+12	-0.0198792	-0.5953158	3.0671699
762	6040.28	575262	0.1043375	5/9/19 6:03	0.0099891	0.2991402	4.76524E+13	3.077692	6.70217E+12	-0.0173633	-0.519973	3.077692
763	6034.01	575263	0.1041918	5/9/19 6:08	0.0099891	0.2991402	4.76695E+13	3.0733946	6.70217E+12	-0.018275	-0.5472753	3.0733946
764	6034.26	575263	0.1041961	5/9/19 6:13	0.0099891	0.2991402	4.76695E+13	3.0735219	6.70217E+12	-0.0079803	-0.2389834	3.0735219
765	6037.47	575263	0.1042516	5/9/19 6:18	0.0099891	0.2991402	4.76695E+13	3.0751569	6.70217E+12	-0.0028126	-0.084228	3.0751569
766	6035.61	575264	0.1036859	5/9/19 6:23	0.0099891	0.2991402	4.79148E+13	3.0584702	6.70217E+12	-0.0009188	-0.027515	3.0584702
767	6032.26	575264	0.1036283	5/9/19 6:28	0.0099891	0.2991402	4.79148E+13	3.0567726	6.70217E+12	-0.0017763	-0.0531943	3.0567726
768	6035.08	575266	0.1012996	5/9/19 6:33	0.0099891	0.2991402	4.90392E+13	2.988081	6.70217E+12	-0.0029613	-0.0886811	2.988081
769	6038.27	575266	0.1013531	5/9/19 6:38	0.0099891	0.2991402	4.90392E+13	2.9896604	6.70217E+12	-0.0017698	-0.0529996	2.9896604
770	6038.35	575267	0.1004336	5/9/19 6:43	0.0099891	0.2991402	4.94889E+13	2.9625364	6.70217E+12	-0.0040978	-0.1227155	2.9625364
771	6041.06	575267	0.1004787	5/9/19 6:48	0.0099891	0.2991402	4.94889E+13	2.963866	6.70217E+12	-0.0041121	-0.1231437	2.963866
772	6032.6	575269	0.1003466	5/9/19 6:53	0.0099891	0.2991402	4.94846E+13	2.9599697	6.70217E+12	-0.0017941	-0.0537273	2.9599697
773	6038.62	575269	0.1004467	5/9/19 6:58	0.0099891	0.2991402	4.94846E+13	2.9629235	6.70217E+12	-0.0169009	-0.5061256	2.9629235
774	6023.18	575269	0.1001899	5/9/19 7:03	0.015734	0.4711809	4.94846E+13	2.9553477	6.70217E+12	-0.0127165	-0.3808168	2.9553477
775	6018.06	575270	0.100393	5/9/19 7:08	0.015734	0.4711809	4.93426E+13	2.9613379	6.70217E+12	-0.0057831	-0.1731846	2.9613379
776	6028.56	575270	0.1005681	5/9/19 7:13	0.015734	0.4711809	4.93426E+13	2.9665047	6.70217E+12	-0.0011814	-0.035379	2.9665047
777	6023.05	575271	0.1000255	5/9/19 7:18	0.015734	0.4711809	4.95649E+13	2.9505	6.70217E+12	-0.0018878	-0.0565333	2.9505
778	6002.6	575271	0.0996859	5/9/19 7:23	0.015734	0.4711809	4.95649E+13	2.9404822	6.70217E+12	-0.0019315	-0.057842	2.9404822
779	6004.55	575271	0.0997183	5/9/19 7:28	0.015734	0.4711809	4.95649E+13	2.9414374	6.70217E+12	-0.0032781	-0.0981682	2.9414374
780	6023.65	575271	0.1000355	5/9/19 7:33	0.015734	0.4711809	4.95649E+13	2.9507939	6.70217E+12	-0.0044118	-0.1321187	2.9507939
781	6022.52	575272	0.1006869	5/9/19 7:38	0.015734	0.4711809	4.9235E+13	2.9700094	6.70217E+12	-0.0183056	-0.5481917	2.9700094
782	6016.76	575272	0.1005906	5/9/19 7:43	0.015734	0.4711809	4.9235E+13	2.9671688	6.70217E+12	-0.004465	-0.1337119	2.9671688
783	6007.87	575272	0.100442	5/9/19 7:48	0.015734	0.4711809	4.9235E+13	2.9627847	6.70217E+12	-0.0011594	-0.0347202	2.9627847
784	5998.51	575272	0.1002855	5/9/19 7:53	0.015734	0.4711809	4.9235E+13	2.9581688	6.70217E+12	-0.0019525	-0.0584709	2.9581688
785	6004.67	575273	0.101848	5/9/19 7:58	0.015734	0.4711809	4.85294E+13	3.0042572	6.70217E+12	-0.016446	-0.4925029	3.0042572
786	5986.82	575273	0.1015452	5/9/19 8:03	0.0212738	0.6370794	4.85294E+13	2.9953265	6.70217E+12	-0.0226577	-0.6785226	2.9953265
787	5966.01	575273	0.1011922	5/9/19 8:08	0.0212738	0.6370794	4.85294E+13	2.9849149	6.70217E+12	-0.0040549	-0.1214307	2.9849149
788	5975.72	575273	0.1013569	5/9/19 8:13	0.0212738	0.6370794	4.85294E+13	2.989773	6.70217E+12	0.0088876	0.266154	2.989773
789	5974.19	575273	0.1013331	5/9/19 8:18	0.0212738	0.6370794	4.85294E+13	2.9890075	6.70217E+12	0.0059397	0.1778742	2.9890075
790	5989.16	575275	0.1021458	5/9/19 8:23	0.0212738	0.6370794	4.8263E+13	3.0130416	6.70217E+12	0.005809	0.1739602	3.0130416
791	5989.1	575275	0.1021448	5/9/19 8:28	0.0212738	0.6370794	4.8263E+13	3.0130114	6.70217E+12	0.0001868	0.005594	3.0130114
792	5990.38	575275	0.1021666	5/9/19 8:33	0.0212738	0.6370794	4.8263E+13	3.0136553	6.70217E+12	0.0010001	0.0299497	3.0136553
793	5999.35	575275	0.1023196	5/9/19 8:38	0.0212738	0.6370794	4.8263E+13	3.018168	6.70217E+12	-0.0026113	-0.0781997	3.018168
794	6009.99	575276	0.1040749	5/9/19 8:43	0.0212738	0.6370794	4.75331E+13	3.0699468	6.70217E+12	0.0003791	0.0113528	3.0699468
795	6015.23	575276	0.1041657	5/9/19 8:48	0.0212738	0.6370794	4.75331E+13	3.0726234	6.70217E+12	0.0045541	0.1363801	3.0726234
796	6006.59	575276	0.1040161	5/9/19 8:53	0.0212738	0.6370794	4.75331E+13	3.0682101	6.70217E+12	0.0020439	0.061208	3.0682101
797	6012.06	575276	0.1041108	5/9/19 8:58	0.0212738	0.6370794	4.75331E+13	3.0710042	6.70217E+12	0.0057903	0.1734002	3.0710042
798	5997.24	575276	0.1038541	5/9/19 9:03	0.021087	0.6314854	4.75331E+13	3.063434	6.70217E+12	0.0154338	0.4615919	3.063434
799	6009.31	575277	0.1048522	5/9/19 9:08	0.021087	0.6314854	4.71754E+13	3.0928732	6.70217E+12	0.007881	0.2360097	3.0928732
800	6014.99	575277	0.1049513	5/9/19 9:13	0.021087	0.6314854	4.71754E+13	3.0957966	6.70217E+12	0.0015859	0.0474924	3.0957966
801	6015.14	575277	0.1049539	5/9/19 9:18	0.021087	0.6314854	4.71754E+13	3.0958738	6.70217E+12	0.0110437	0.330722	3.0958738
802	6010.98	575277	0.1048813	5/9/19 9:23	0.021087	0.6314854	4.71754E+13	3.0937327	6.70217E+12	0.0082541	0.2471828	3.0937327
803	6015.8	575279	0.1061867	5/9/19 9:28	0.021087	0.6314854	4.66328E+13	3.13224	6.70217E+12	0.0098213	0.2941152	3.13224
804	6008.98	575281	0.1036694	5/9/19 9:33	0.021087	0.6314854	4.7711E+13	3.0579847	6.70217E+12	0.0137284	0.4111198	3.0579847
805	6005.02	575281	0.1036011	5/9/19 9:38	0.021087	0.6314854	4.7711E+13	3.0559695	6.70217E+12	0.0148862	0.4457921	3.0559695
806	5992.86	575281	0.1033913	5/9/19 9:43	0.021087	0.6314854	4.7711E+13	3.0497812	6.70217E+12	0.019156	0.5736583	3.0497812
807	6001.7	575281	0.1035438	5/9/19 9:48	0.021087	0.6314854	4.7711E+13	3.0542799	6.70217E+12	0.0155476	0.4655988	3.0542799
808	5996.77	575281	0.1034587	5/9/19 9:53	0.021087	0.6314854	4.7711E+13	3.051771	6.70217E+12	0.0127646	0.3822572	3.051771
809	5997.26	575281	0.1034672	5/9/19 9:58	0.021087	0.6314854	4.7711E+13	3.0520204	6.70217E+12	0.01036	0.3102475	3.0520204
810	5995.19	575281	0.1034315	5/9/19 10:03	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	-0.0001443	-0.0043213	3.050967
811	5995.19	575281	0.1034315	5/9/19 10:08	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	0.0134747	0.4035223	3.050967
812	5978.15	575281	0.1031375	5/9/19 10:13	0.0217322	0.6508069	4.7711E+13	3.0422953	6.70217E+12	0.0153319	0.4591393	3.0422953
813	5989.44	575281	0.1033323	5/9/19 10:18	0.0217322	0.6508069	4.7711E+13	3.0480408	6.70217E+12	0.016155	0.4837884	3.0480408
814	6001.74	575282	0.1070813	5/9/19 10:23	0.0217322	0.6508069	4.61352E+13	3.158626	6.70217E+12	0.0174376	0.522198	3.158626
815	6010.06	575282	0.1072297	5/9/19 10:28	0.0217322	0.6508069	4.61352E+13	3.1630047	6.70217E+12	0.0234385	0.7019049	3.1630047
816	6009.71	575283	0.1079065	5/9/19 10:33	0.0217322	0.6508069	4.58431E+13	3.1829698	6.70217E+12	0.0203173	0.6084354	3.1829698
817	5995.73	575283	0.1076555	5/9/19 10:38	0.0217322	0.6508069	4.58431E+13	3.1755655	6.70217E+12	0.019624	0.5876734	3.1755655
818	6000.73	575284	0.1065399	5/9/19 10:43	0.0217322	0.6508069	4.63618E+13	3.142657	6.70217E+12	0.0143614	0.4300761	3.142657
819	6007.62	575284	0.1066622	5/9/19 10:48	0.0217322	0.6508069	4.63618E+13	3.1462654	6.70217E+12	0.0184275	0.5518422	3.1462654
820	6006.48	575284	0.106642	5/9/19 10:53	0.0217322	0.6508069	4.63618E+13	3.1456683				

IN THE UNITED STATES DISTRICT COURT
IN AND FOR THE DISTRICT OF DELAWARE

- - -

BEARBOX LLC and AUSTIN)
STORMS,)
)
Plaintiffs,)
)
vs.) Civil Action No.
) 21-534-MN-CJB
LANCIUM LLC, MICHAEL T.)
MCNAMARA, and RAYMOND E.)
CLINE, JR.,)
)
Defendants.)

- - -

Wilmington, Delaware
Friday, April 22, 2022
Motion to Strike Hearing
and
Discovery Dispute Hearing

- - -

BEFORE: HONORABLE CHRISTOPHER J. BURKE, Magistrate Judge

- - -

APPEARANCES:

ASHBY & GEDDES, P.A.
BY: ANDREW COLIN MAYO, ESQ.
and
MARSHALL GERSTEIN BORUN LLP
BY: BENJAMIN HORTON, ESQ., and
JOHN R. LABBE, ESQ.
(Chicago, Illinois)
Counsel for Plaintiffs

<p style="text-align: right;">Page 22</p> <p>1 was filed and the trade secret counts were dropped. So 2 the trade secrets were no longer at issue in the case 3 when that interrogatory responded to. 4 But as far as -- 5 THE COURT: Mr. Horton, wait. I'm sorry. 6 Just to back up, you said an architecture of something. 7 What was it again? 8 MR. HORTON: Yeah. A system architecture, 9 Your Honor. So the way the system would be set up where 10 different components would be and how they would be 11 interconnected. 12 THE COURT: But a system architecture 13 relating to what? 14 MR. HORTON: Related to cryptocurrency 15 mining. 16 THE COURT: I mean, I'm just trying to -- 17 obviously, one thing I'm trying to do here is I'm trying 18 to understand in my own mind. Like, a key issue here is 19 defendants say that the plaintiffs were basically talking 20 about the types of arbitrage methods that are referred to 21 in the second amended complaint back in the original 22 complaint. 23 And the plaintiff is saying, No, we 24 weren't. No, no, we were talking about something else.</p>	<p style="text-align: right;">Page 24</p> <p>1 THE COURT: And it didn't have anything to 2 do with arbitrage methods at all? 3 MR. HORTON: That's correct, Your Honor. 4 THE COURT: Okay. Now, to that, the other 5 side, they cite your response to that interrogatory, and 6 I think you've said that the response came after the 7 trade secret counts were dropped. But in the 8 interrogatory, they used the same phrase "BearBox 9 technology" that you used in the original complaint when 10 referencing the trade secret. 11 And then they say, Look, look at their 12 answer. When we asked them what BearBox technology was, 13 part of the answer was the sentence beginning on the 14 supplementary answer "Mr. Storms also explained." And I 15 think they're saying what's being described there is 16 energy value arbitrage. 17 How come they're wrong? In other words, 18 they're suggesting that BearBox technology means the 19 kinds of methods for energy value arbitrage they're 20 talking about in the second amended complaint, and 21 they're citing particular parts of your supplemental 22 answer to demonstrate that. 23 Why is their reading of your answer 24 incorrect.</p>
<p style="text-align: right;">Page 23</p> <p>1 And so incumbent upon that is to say, Here's what we were 2 talking about. And you can see it's not the specific 3 arbitrage method that we're talking about now in the 4 second amended complaint. But I'm still struggling to 5 understand what it was you were talking about in the 6 first complaint. 7 This architecture, what does it have to do 8 with -- what more can you tell me about why the two 9 things weren't overlapping? 10 MR. HORTON: Yeah. Fair enough, Your 11 Honor. I'm not doing a good job of explaining that. 12 First of all, it had nothing to do with 13 energy value arbitrage methods. What it did have to do 14 with was more -- when I say "architecture," I'm talking, 15 Your Honor, about how different components are connected. 16 So, in other words, where servers might be in their 17 relationship in terms of how they're connected to an 18 electricity grid; where the control center may be with 19 respect to those servers in the electricity grid. 20 Something more high-level, how you set up various 21 physical components of a system. 22 THE COURT: So it was about certain 23 computer architecture? 24 MR. HORTON: Yeah.</p>	<p style="text-align: right;">Page 25</p> <p>1 MR. HORTON: It's incorrect, Your Honor, 2 because that answer does not discuss or reveal the 3 particular method of energy value arbitrage we're talking 4 about here, nor would it, because at the time we 5 responded to this interrogatory, first of all, no trade 6 secret was in the case at all. 7 Second of all, we had no reason to 8 believe, at that point, that the defendants had 9 misappropriated and were using this particular trade 10 secret. And the particular trade secret, Your Honor, the 11 particular method of energy value arbitrage is very 12 specific. It involves specific variables, specific 13 estimates or computations about specific performance 14 characteristics of particular machines and how those 15 values all work together to inform how a system might 16 determine at what price to buy energy, at what price, 17 when to sell it. It's very specific, Your Honor, and 18 that just wasn't contemplated at the time we responded to 19 that interrogatory and that information's not in that 20 answer. 21 THE COURT: I guess when you were 22 responding to the interrogatory, did you understand -- 23 they're obviously asking you to describe all aspects of 24 the BearBox technology. Were you attempting -- and the</p>

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

IN THE UNITED STATES DISTRICT COURT
IN AND FOR THE DISTRICT OF DELAWARE

BEARBOX LLC and AUSTIN STORMS,)	
Plaintiffs,)	
v.)	
)	C.A. No.
LANCIDM LLC, MICHAEL T.)	21-534-MN-CJB
MCNAMARA, and RAYMOND E. CLINE,)	
JR.)	
Defendants.)	

- - - -
Wilmington, Delaware
Thursday, October 20, 2022
Markman Transcript
- - - -

BEFORE: HONORABLE GREGORY B. WILLIAMS
UNITED STATES DISTRICT COURT JUDGE

- - - -

Michele L. Rolfe, RPR, CRR

1 meaning as we understand BearBox understands the plain and
2 ordinary meaning, because we're not sure what their plain
3 and ordinary meaning actually is. It seems to come from
4 their expert. And this is their expert, Dr. McClellan --
5 and that's sort of how we got here because we didn't know
6 until we took Mr. McClellan's deposition sort of where they
7 were thinking about going with what they understood the
8 plain and ordinary meaning to be.

9 And so this is Mr. McClellan here -- Dr.
10 McClellan. My understanding of a power option agreement is
11 essentially a contract to buy power at a certain price. So
12 if that's the definition and the plain and ordinary meaning
13 they're going with, there's no option and there's no
14 minimum.

15 So he goes on: To me that's the plain and
16 ordinary meaning of it. Opting to purchase power ahead of a
17 time at a certain rate.

18 Now, that's slightly different than up here.

19 And then he goes on: I'm going to pay for that
20 power whether I use it or not. I don't have to use it.

21 So he's then asked: You said PPA, meaning power
22 purchase agreement, I think the term from the patent is
23 power option agreement. And he answers: I may have used
24 the wrong term. I meant the contracted purchase of power at
25 a certain price.

1 So his point, I think, Your Honor, was, look,
2 I'm contracted, I must receive it, it must be delivered to
3 me. Because I don't disagree with Mr. Nelson, the point of
4 the power option agreement is the grid wants to be able to
5 balance itself. And so in the event that it needs to call
6 on the option to sort of redirect that delivered power
7 elsewhere; of course that means the power needs to be
8 delivered in the first place. And so I think Dr.
9 McClellan's testimony is consistent with that.

10 What I think he was resisting is the notion that
11 that delivered power has to be used to perform computations.
12 When -- his review of the patent, he thinks that the power
13 could be used to, you know, conduct computations, but also
14 to use for infrastructure, shunt to ground. He's reading
15 the patent more broadly in terms of what the power can be
16 used for. I don't think he disputed any point that it needs
17 to be contracted to be delivered.

18 THE COURT: Well, let me ask you a follow up:
19 Didn't I read somewhere where Dr. McClellan admitted that he
20 didn't review the patent?

21 MR. HORTON: I don't think so, Your Honor. That
22 might have been Dr. McCamant -- or Mr. McCamant.

23 MR. NELSON: Yeah, I was going to say counsel is
24 correct. So both parties have a technical expert,
25 Dr. Hasani is ours, Dr. McClellan is BearBox's. And a --

1 So moving on to minimum power threshold, Your
2 Honor. Again, BearBox's construction has always been plain
3 and ordinary meaning. That was Lancium's construction of
4 the term as well up until the summary judgment brief was
5 filed. That was Lancium's interpretation -- was consistent
6 with BearBox's or at least they didn't dispute it all the
7 way through fact discovery, all the way through expert
8 reports, and only in summary judgment did they raise an
9 issue. Trying to --

10 THE COURT: Didn't both sides reserve the right
11 to request claim construction in the future if necessary?

12 MR. HORTON: They did, Your Honor. They did.

13 So if we're trying to resolve a perceived issue
14 about what the plain and ordinary meaning is, this is an
15 attempt at a compromise to try to harmonize, again, the
16 claim.

17 A minimum power threshold, BearBox's proposes
18 would be a minimum amount of power delivered to a load
19 unless the power entity exercises the option. And, again,
20 the option would be discussed in the previous plain and
21 ordinary meaning of power option agreement.

22 What we want to be clear about here, though, is
23 that a minimum power threshold may be zero. We didn't think
24 this was controversial until the summary judgment briefing,
25 because the patent is so clear about that.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

IN THE UNITED STATES DISTRICT COURT
IN AND FOR THE DISTRICT OF DELAWARE

BEARBOX LLC and AUSTIN STORMS,)	
Plaintiffs,)	
v.)	
)	C.A. No.
LANCIUM LLC, MICHAEL T.)	21-534-MN-CJB
MCNAMARA, and RAYMOND E. CLINE,)	
JR.)	
Defendants.)	

- - - -
Wilmington, Delaware
Tuesday, November 29, 2022
Pretrial Transcript
- - - -

BEFORE: HONORABLE GREGORY B. WILLIAMS
UNITED STATES DISTRICT COURT JUDGE

- - - -

Michele L. Rolfe, RPR, CRR

APPEARANCES:

ASHBY & GEDDES
BY: ANDREW C. MAYO, ESQ.

-and-

MARSHALL, GERSTEIN & BORUN LLP
BY: BENJAMIN T. HORTON, ESQ.
JOHN LABBE, ESQ.
For the Plaintiffs

BARNES & THORNBURG LLP
BY: WILLIAM BURTON, ESQ.
MARK C. NELSON, ESQ.
ADAM M. KAUFMANN, ESQ.
DERRICK HOOKER, ESQ.
For the Defendants

- - - - -

P R O C E E D I N G S

(REPORTER'S NOTE: The following pretrial hearing was held in Courtroom 6-B, beginning at 3:00 p.m.)

THE COURT: Good afternoon. You may be seated.

All right. So we're here for the final pretrial conference in BearBox LLC, et al versus Lancium LLC, et al. Civil Action No. 21-534.

There's a three-day bench trial scheduled to start on Tuesday, December 6th at 9:00 a.m.

So I have reviewed the proposed pretrial order submitted by the parties and I just want to go through and -- go through the various sections and see what needs to be done and then decide on the motions in limine.

So let's start by having counsel put their appearances on the record.

MR. MAYO: Good afternoon, Your Honor.

THE COURT: Good afternoon, Mr. Mayo.

MR. MAYO: Andrew Mayo from Ashby & Geddes on behalf of plaintiffs BearBox and Mr. Austin Storms. I'm joined today by my co-counsel from Marshall Gerstein Ben Horton and John Labbe.

MR. LABBE: Good afternoon.

MR. BURTON: Good afternoon, Your Honor.

1 William Burton of Barnes & Thornburg on behalf of
2 defendants. With me today is Mark Nelson, Adam Kaufmann and
3 Derrick Hooker all from Barnes & Thornburg and all have been
4 admitted pro hac.

5 Mr. Stover wanted me to let you know he's with
6 Judge Fallon right now, but he does intend on joining us
7 once that's over.

8 THE COURT: Okay.

9 So first with respect to trial exhibits and
10 objections thereto, I see that the parties have separate
11 list of exhibits. What I'd like the parties to do is to
12 meet and confer and compile a joint -- a common list of
13 exhibits in an attempt to reach agreement on any remaining
14 objections.

15 The common list of exhibits should be filed no
16 later than Friday, December 2nd, along with a list of any
17 exhibits that remain in dispute. And for those that remain
18 in dispute, I want the specific objections to the proposed
19 exhibit with citations and any response to those objections
20 with citations.

21 With respect -- you know, the purpose is to
22 narrow the objections down as much as possible and to
23 have -- it looks like many of the exhibits are the same, so
24 instead of having plaintiffs and defendants, let's just have
25 a common exhibit list.

1 And then to the extent that there are some
2 exceptions where you guys just can't reach an agreement,
3 then we can have them as, you know, Plaintiffs Exhibits and
4 Defense Exhibits, but the record will be clearer with as
5 many common exhibits as we can have.

6 Next with respect to demonstrative exhibits, any
7 party proposing to use demonstrative exhibits during their
8 examination of witnesses should produce the proposed
9 demonstrative to the other side at least 24 hours in advance
10 before its intended use and meet and confer about any
11 proposed objections.

12 If the parties cannot reach agreement on
13 demonstratives, it should be brought to the Court's
14 attention for resolution prior to the start of the hearing
15 on the proposed demonstratives to be used.

16 Next with respect to witnesses, are there any
17 significant disputes with respect to the calling of any
18 witnesses identified by either side that the Court needs to
19 resolve?

20 In looking at the witness list, none was
21 apparent to me.

22 MR. NELSON: Your Honor, there's one issue
23 that's come up, I don't think it's going to be a problem,
24 but Rachel Arndt is on the may call list for defendants. It
25 came to our attention last night that she is likely

1 unavailable. She lives in Chicago and her husband is out of
2 town this time period when the trial is going to occur and
3 she doesn't have anybody to watch her kids.

4 I think it's unlikely -- I brought this up to
5 opposing counsel this morning. I think it's unlikely we
6 will call her, given the current posture of the case, but
7 she is amendable to appearing by Zoom or some other method
8 in the event she were to be called if the Court would
9 consider that.

10 THE COURT: Okay. If it is necessary to call
11 her, she's on the may call list, so if it becomes an issue
12 where you need to -- where defendants decide they want to
13 call her, defendants should confer with counsel for
14 plaintiffs to see whether they have any objection to her
15 appearing remotely. And if you guys can't reach agreement
16 on it, then I'll weigh in on it. Hopefully the parties will
17 be able to reach agreement if necessary.

18 MR. NELSON: Thank you, Your Honor.

19 THE COURT: Any other issues with respect to
20 witnesses?

21 MR. HORTON: Your Honor, we have designated in
22 the pretrial order that we intend to call in our
23 case-in-chief by deposition some limited deposition
24 designations from two of the defendant's witnesses. We
25 discussed that with counsel today during a meet and confer,

1 and counsel didn't have a position whether they were going
2 to object or not to that. So we wanted to raise that as a
3 potential issue as well.

4 THE COURT: Okay. So what's the issue with
5 respect to deposition designations?

6 MR. NELSON: Well, Your Honor, we were -- we
7 wanted some time to research the issue. It's my experience
8 that some courts permit deposition designations to be played
9 when the witnesses are also present live and other courts do
10 not. And if plaintiff wants to call an adverse witness in
11 their case-in-chief, then they call the person live. And I
12 don't know what Your Honor's preference is at all, but we
13 wanted to research the issue to make a decision.

14 THE COURT: Right. Did you intend to call these
15 witnesses live as well?

16 MR. HORTON: No, Your Honor, just limited
17 deposition testimony. The rule -- the rule on point, we
18 think, on some point here, Your Honor, is Rule 32(a)(3).
19 And the witnesses that we're talking about here, Your Honor,
20 are also parties to the case, and that's what we believe
21 Rule 32(a)(3) covers.

22 THE COURT: Okay. Are these witnesses that the
23 defendants will call as well?

24 MR. HORTON: I believe so, Your Honor, but I --

25 MR. NELSON: Who is it; is it Cline and

1 McNamara?

2 MR. HORTON: Yes, that's correct.

3 MR. NELSON: Yeah, I think it's highly likely
4 we'll call both McNamara and Cline.

5 THE COURT: Okay. So if these witnesses are
6 going to be live witnesses, why not just call them as cross
7 in your case-in-chief?

8 MR. HORTON: Rule 32(a)(3), Your Honor, says
9 that we can use the parties' testimony taken by deposition
10 for any purpose; and so that's the purpose we'd like to use
11 it for.

12 We also think it would be more efficient and
13 orderly for those pieces of information and authentication
14 of documents to be done by deposition rather than through,
15 for example, cross-examination or calling an adverse witness
16 live.

17 THE COURT: Okay.

18 All right. You said you may do it or are you
19 sure you're going to do it?

20 MR. HORTON: I think we're sure we're going to
21 do it, Your Honor.

22 THE COURT: Okay.

23 All right. So, defendants, you wanted some time
24 to look at the issue further. Let me know your position,
25 defendants, on it by noon on Friday.

1 MR. NELSON: Yes, Your Honor.

2 One thing that would help us -- and I don't know
3 if you're willing to do this or not -- was to know what
4 portions of the depo designations they intend to play.
5 Because if it's simply authenticating documents or something
6 like that, you know, that may well be something that we're
7 more likely to agree to than significant portions of
8 depositions that we think might be out of context or
9 whatever.

10 I don't know if it's something you're willing to
11 do is to tell us what you're going to play in advance so we
12 can have a better feel for whether we're going to object or
13 not.

14 MR. HORTON: So, Your Honor, we've exchanged
15 deposition designations, as Your Honor probably knows those
16 start out broad and they get narrowed through the process.
17 We're in the process of narrowing that. I believe under the
18 current pretrial order that we proposed, we would have to
19 provide the actual designations we intend to play by
20 Saturday.

21 THE COURT: Yes.

22 MR. HORTON: So that is our plan.

23 THE COURT: Okay.

24 All right. And then the defendants will have an
25 opportunity to designate their counter-designations. So it

1 sounds like by Saturday plaintiffs will let defendants know
2 the specific designations that they proposed to play. Is it
3 video as well?

4 MR. HORTON: That's correct, Your Honor, yes.

5 THE COURT: Okay. And then defendants will have
6 the opportunity to counter-designate or raise any objections
7 that you have and if it's -- so why don't we make
8 defendants -- if there's still an issue by Monday morning,
9 you get me your position. And if it's something that I need
10 to resolve, you'll let me know.

11 MR. NELSON: That sounds good, Your Honor.

12 Thank you.

13 THE COURT: Okay. And the next topic was going
14 to be deposition designations, so parties are going to
15 continue to meet and narrow your deposition designations and
16 any objections to it.

17 Any proposed deposition designations that either
18 side intends to present should be presented to the other
19 side in accordance with the instructions of the Court; and,
20 thereafter, the opposing side has the opportunity to make
21 counter-designations.

22 And if there's still any objections, the parties
23 should bring it to the Court's attention before the day that
24 the counter-designations are proposed to be read into the
25 record.

1 Next is just time allocation. It's a three-day
2 bench trial, so basically we're dealing with about 20 hours.
3 Each side will be allocated a total of one hour for opening
4 and closings. Each side will be allocated up to
5 seven-and-a-half hours to present their case or their
6 defense case-in-chief and rebuttal through testimony. So
7 seven-and-a-half hours total each side.

8 Sidebar objections will be charged to the
9 parties.

10 With respect to openings and closings, you know,
11 it's a bench trial, you can decide whether or not you want
12 to give an opening or closing, but, you know, we'll just set
13 aside one hour.

14 If you decide that you don't want it and would
15 rather have that time in your presentation of your case,
16 just let me know and we can have that time added to you.

17 But the parties should meet and confer about
18 that and let me know about that prior to the start of trial.

19 MR. NELSON: Your Honor, may I ask a question?

20 THE COURT: Sure.

21 MR. NELSON: I think I know the answer, but when
22 you say one hour for openings and closings, do you mean each
23 or the total?

24 THE COURT: I mean each.

25 MR. NELSON: So one hour openings and one hour

1 for closing?

2 THE COURT: No, one hour per side.

3 MR. NELSON: Okay.

4 THE COURT: You can divvy up your hour between
5 opening and closing as you like.

6 MR. NELSON: All right. Thank you.

7 THE COURT: All right. Moving to the motions in
8 limine. I've reviewed the motions in limine.

9 I'll start with plaintiff's motion in limine
10 one, which is motion in limine to preclude defendants from
11 presenting evidence, testimony or argument at trial about
12 any of their patents, patent applications or inventions
13 other than the '433 patent.

14 That motion in limine is denied. Evidence of
15 Lancium's '632 application and other evidence of Lancium's
16 patent portfolio is relevant to plaintiff's claims and
17 defendant's defenses thereto, and its probative value is not
18 substantially outweighed by the danger of unfair prejudice.

19 Moving to plaintiff's motion in limine two,
20 which is the motion in limine to preclude defendants from
21 presenting evidence, testimony or argument at trial about
22 any purported conception of any element of the inventions
23 claimed in the '433 patent that defendants withheld during
24 fact discovery.

25 That motion in limine is denied. Lancium

1 provided over 30 pages of dates and evidence supporting
2 their claim of conception of the '433 patent. Lancium later
3 provided additional evidence on an element-by-element basis
4 through Dr. Ehsani's expert report. After Lancium
5 supplemented its response to Interrogatory No. 3, BearBox
6 never moved to compel for any alleged deficiency in the
7 response, thus Lancium had reason to believe its response
8 was sufficient. And the *Pennypack* factors favor inclusion
9 of the evidence.

10 Moving to plaintiff's motion in limine number
11 three, which is motion in limine to preclude defendants from
12 presenting evidence, testimony or argument at trial
13 suggesting that plaintiffs cannot prove inventorship or
14 conversion by relying on nonconfidential information.

15 That motion in limine is granted in part; denied
16 in part. Lancium is able to present evidence, testimony or
17 argument about the public nature of BearBox's disclosures,
18 which is relevant to Lancium's defense against BearBox's
19 claim of joint inventorship, i.e., to prove there was no
20 collaboration between Lancium, including McNamara and/or
21 Cline and Mr. Storms. However, Lancium cannot make blanket
22 statements that the alleged public nature of BearBox's
23 disclosures precludes a finding of joint inventorship. Such
24 a statement is not supported by the law. See the
25 *Dana-Farber* case, 964 F.3d, 1365 at 1371 to 1372.

1 Moving to Lancium's first motion in limine,
2 which is a motion in limine to preclude expert testimony
3 inconsistent with the Court's claim construction ruling and
4 to include new expert testimony or opinions outside the
5 scope of expert's reports.

6 That motion is granted in part; denied in part.
7 Defendant's motion in limine number one is granted in part
8 to the extent it seeks to preclude Dr. McClellan from
9 testifying inconsistently with the Court's *Markman* opinion.
10 Ultimately, any concern of prejudice can be adequately
11 addressed during trial by proper objection or through
12 cross-examination of Dr. McClellan.

13 Defendant's motion in limine number one is
14 denied in part as moot based on the Court's November 23rd
15 order striking Dr. McClellan's supplemental report.

16 Moving to Lancium's motion in limine number two,
17 which is a motion in limine to preclude plaintiffs from
18 using pejorative terms like "thief, theft, steal, stealing
19 or robbery."

20 Defendant's motion in limine number two is
21 denied as moot. Conversion is no longer a claim to be tried
22 and this is no longer a jury trial.

23 Moving to Lancium's motion in limine number
24 three, motion in limine to preclude any argument or evidence
25 regarding discovery disputes. The ruling is that neither

1 side should refer to Lancium's source code or any discovery
2 dispute related to such matter.

3 At the same time, Lancium cannot not produce
4 such information but try to use such information in its
5 defense.

6 BearBox cannot refer or attempt to use any
7 discovery the disputes.

8 That's all the rulings on the motions in limine.

9 That is all that I had on my list.

10 Anything else that counsel believes that we need
11 to discuss this afternoon?

12 One thing I need to raise is set up of
13 electronic equipment. The parties requested that the Court
14 grant them access to the courtroom on Monday, December 5th
15 to allow the parties to set up electronic and computer
16 devices to be used during trial. That's fine. There's
17 nothing on the Court's schedule in this courtroom on that
18 date, so the parties will be granted access to set up their
19 electronic equipment.

20 Just call chambers and coordinate to make sure
21 the courtroom is open so that you can set up your equipment.

22 MR. HORTON: Your Honor, one other -- it may be
23 too early to ask, but we wanted to ask about post-trial
24 briefing for conclusions of law and those findings of fact.
25 We started to discuss this with opposing counsel and we

1 didn't know whether you would prefer sequential briefing or
2 simultaneous briefing. And I think the one thing we're in
3 agreement on is that we'd like to ask for maybe five to
4 six weeks for the opening briefs to put them a little after
5 the holidays, the next round wouldn't be due until
6 thereafter. We're sort of in agreement on that.

7 If that's amendable to Your Honor, we can put a
8 proposed schedule, but I think we need your guidance on your
9 preference for -- I think our preference would be sequential
10 briefing, I can't speak -- we didn't reach an agreement on
11 that aspect of anything, but our preference would be that we
12 would file briefs, they would respond and then we would have
13 an opportunity to reply as well as the plaintiffs.

14 MR. NELSON: And so I guess we are in agreement
15 with the other side with respect to trying to have
16 post-trial briefing done sort of after the holidays. It
17 would be our preference, I think, to have simultaneous
18 briefing or if it is sequential briefing we would get a
19 sur-reply so each side would get the same number of papers.

20 THE COURT: Okay. I'm fine with the schedule
21 after the holidays.

22 You guys meet and confer and set a proposed
23 order.

24 With respect to whether simultaneous or
25 sequential, I think it would be more -- it's more productive

1 for the Court to have sequential briefing, but I will grant
2 your request for sur-reply so that each side has the same
3 amount of times to address the Court.

4 MR. NELSON: Thank you, Your Honor.

5 MR. HORTON: Okay. I think with that advice, we
6 can meet and confer and put together a proposal.

7 MR. NELSON: One more pretrial issue, Your
8 Honor.

9 THE COURT: Go ahead.

10 MR. NELSON: How does the Court prefer that we
11 bring up judgment as a matter of law, motion for directed
12 verdict, things like that during the course of once they
13 rest, assuming that we would make such a motion and then
14 again once we rest.

15 THE COURT: Yes. Just make your motion orally
16 and let me know that you're making your motion. I assume
17 that you'll follow up with, you know, written papers. So if
18 I have it then you can make your motion and hand up your
19 written submission. If you're going to do it -- a follow
20 up, you know, after your oral -- at some later date, you
21 know, let me know.

22 MR. NELSON: Okay. It would be our preference
23 to do it at a later date and make the motions orally at the
24 time just to preserve the record.

25 THE COURT: Okay. But they should be -- they

1 will be due within -- the written submissions will be due
2 within five days after the completion of trial.

3 MR. NELSON: Five days, Your Honor?

4 THE COURT: Yes. Five -- so seven days, yes.
5 So a week after the completion of the trial.

6 MR. NELSON: Thank you, Your Honor. That's
7 fine.

8 THE COURT: Anything else?

9 MR. HORTON: I guess I'll raise it, it is our
10 position that there's no such thing as a motion for a
11 directed verdict or for judgment as a matter of law for a
12 bench trial. I think the rule specifically says with
13 respect to a jury trial, so that would be our position with
14 respect to those motions that they wouldn't be appropriate
15 for a bench trial.

16 THE COURT: Okay.

17 All right. We'll take it under advisement. If
18 that is indeed the law, then it's easy to denial.

19 MR. NELSON: Okay, thank you, Your Honor.

20 THE COURT: Anything else?

21 MR. HORTON: No, Your Honor.

22 THE COURT: All right.

23 MR. NELSON: No, Your Honor.

24 THE COURT: All right. We will recess.

25 We'll look for your proposed orders and we'll

1 see you for trial on Tuesday.

2 (Whereupon, the following proceeding concluded
3 at 3:26 p.m.)

4 I hereby certify the foregoing is a true
5 and accurate transcript from my stenographic notes in the
6 proceeding.

7 /s/ Michele L. Rolfe, RPR, CRR
8 U.S. District Court
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25